# ©Climate Change Means Green Jobs

Dennis L. Nord, Ph.D.

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The cover photo, by Dennis Nord, is a view of an oil rig in the Santa Barbara Channel at sunset. I canted it to the west so the oil rig is sliding into the sunset.

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# Introduction: The Best and The Worst of Times for Green/Climate Careers

"It was the best of times, it was the worst of times." Dickens' famous words resonate today as we stand at a crossroads in the fight against climate change. Political winds shift, sometimes slowing progress, but the urgency of our environmental crisis does not wait for governments to act. Where there are great challenges, there are even greater opportunities.

Now is the time to push forward. We cannot afford to wait for sweeping political solutions that may never come. Instead, we must seize the levers of change that remain in our hands—economic innovation, cutting-edge research, education, and global collaboration. Sustainable energy is not just an environmental necessity; it is an economic advantage. Private sector investment in clean technology continues to surge, and many states, local governments, and tribal nations are pressing ahead with climate solutions regardless of federal policy shifts.

Former Vice President Al Gore is one example of this determination, reaching beyond U.S. borders to forge international partnerships in the fight against climate change. You, too, can take action—whether by advancing sustainable industries, developing resilient infrastructure, or helping communities adapt to a changing world.

Lincoln urged us to look to "the better angels of our nature." That call still stands. We can either retreat into old habits of fossil-fuel dependence or build a future defined by innovation and sustainability. The choice is ours.

A better world is within reach. The only question is whether we will step forward to create it. This book is designed to support you and challenge you on your journey to help create a better tomorrow. There is no one better to tackle the problems you know need to be addressed and there is no time to wait.

# I. The Active Process in Three Steps, Start Here

Most people approach career decisions by simply following the path of others with similar backgrounds. The result? About 20% love what they do, 20% are miserable and would rather do anything else, and the remaining 60% feel indifferent—just going through the motions. But why settle for "meh"? This process is about shifting the odds in your favor—helping you find a career you truly enjoy. Let's make "I wouldn't want to do anything else" the norm!

# Step 1. What do you want to do? Which climate problems? And Current (US) Political Reality:

The climate change crisis presents some of the most pressing challenges of our time, but with those challenges come tremendous opportunities—opportunities for you to make a real, lasting impact. This guide is designed to help you focus your creativity and channel your career efforts into solutions that could change the lives of millions. The fact that you're reading this means you already care deeply about the effects of climate change. That motivation is powerful. Let it drive you forward, as this guide helps you unlock ways to make the greatest possible impact. The current political landscape in the U.S. is undergoing a dramatic shift, with the government reversing course on fossil fuel policies. Efforts to combat climate change have been put on the federal government shelf. These changes will directly impact job opportunities in the U.S beginning with Federal agencies. Funding from the Inflation Reduction Act, passed under the previous administration, remains uneven and in some case blocked.

Every new challenge creates job opportunities, but it can also lead to job losses. Some positions that were expected to open have been abruptly closed, affecting those preparing to start. Additionally, shifts in U.S. policy, including participation in joint foreign initiatives and climate funding abroad, will have a global impact on efforts to curb climate change.

As you plan your future in the climate industry, it is essential to consider these evolving political and economic factors.

The direct jobs to counter this flip in federal policy from clean energy to more focus on fossil fuels will require more effort than ever. There are lawsuits brought by attorneys for releasing previously allocated funds. Lawsuits related to federal staff let go from EPA and other agencies that have shepherded the climate and environmental issues for the federal government are in progress. Finding positions for highly experienced federal employees being laid off requires skills at outplacement to insure these people wind up in positions that can make good use of that experience, knowledge and skills. Like any of the areas identified in this

book, consider the options and make sure it's your future you want and not your knee jerk reaction to something you think should happen.

Now, more than ever, private, state, tribal, and local organizations will lead U.S. efforts to halt climate change. Your ability to contribute to this process is critical and needed more than ever. This is where you can locate the problems that will have the most impact on mitigating climate change. As you can imagine, funding is essential. If you can secure funding for a project, improve efficiency by accomplishing more with fewer resources, or develop new revenue streams for your organization, your contributions will be highly valued.

If you are entering your first career, you may have limited experience and resources related to the financial aspects of an organization. However, it is crucial to understand how funding works in any organization you join. Regardless of your role, learn about financial support mechanisms, as this new political reality will place greater emphasis on funding.

This isn't a passive journey. The solutions to climate change require active participation, and this guide will show you how to take charge of your own career path to address these problems. As we move through the book, you'll see examples of climate challenges and current solutions, but most importantly, you'll learn how to make it personal. You are the one who will decide where you can have the greatest impact, using your own skills, passions, and creativity. Put another way, the process of making good career choices can't be handed off to an expert—it requires your own hand on the tiller to arrive at truly satisfying outcomes.

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## What Do You Want to Do?

Solving this question of **what** you want to do is the chief task leading to your place in active career working the problems of climate change. Answer this question and you begin to focus your **motivation** and to move towards the path to solve problems of concern to you. Think of this as the main engine driving your project of arriving at a satisfying and high impact career working climate issues!

## Why Focus on Problems?

Why focus on problems? Because every career opportunity is built on solving them. The biggest challenges create the greatest needs—and with them, the greatest opportunities to make an impact. Whether you're launching a startup, securing a contract, or stepping into a new role, your success hinges on your ability to identify problems and craft solutions. The more you embrace this mindset, the more confident and effective you become. And when confidence meets focused effort, real change happens—not just in your work, but in the world around you. Satisfaction is built on this!

The world needs problem-solvers, and this guide will help you harness that skill for maximum career impact. So, the big question isn't just what you want to do—it's **what problems do you want to solve?**

For those transitioning careers mid-life, your existing career capital is of great value. You already have experience that can be repurposed to solve climate change challenges. Imagine the oil field professional, Carlos Araque with Quaise Energy, who now leads a geothermal energy startup—using years of oil industry experience to move the world away from fossil fuels toward sustainable energy solutions. As you move through the book look for inspiration to turn your expertise into solutions for climate problems.

## Building Career Capital

If you're a student or recent graduate, you're at the start of building your career capital. As you take the next steps, you'll learn how to seek out opportunities that not only advance your career but also make a high-impact difference in solving climate change.

This is where we will unpack the idea of the best career, the best job and the right location for you. While preparing for a big impact might charge your search, finding your ideal path often requires patience. Consider your career to be a

journey where each step builds toward your larger career goals. Like many of you, I wanted to avoid mistakes and quickly find success in my career, hoping to skip over unnecessary steps or delays but I've come to realize that there isn't just one "best" choice for any of us. Instead, multiple paths can offer equal satisfaction. Learning to excel in an early role builds valuable skills for future opportunities you might not have considered early on.

The fight against climate change offers a unique path where your work can evolve and grow with the shifting needs of the planet. If you're driven by the idea of making a real difference, this field will be a source of ongoing motivation and purpose. Climate issues like species extinction, human suffering, and atmospheric carbon reduction are massive challenges that require long-term commitment.

Resources of the massive and successful Project Drawdown provide powerful insights into the critical areas where action is needed for carbon reduction, while 80,000 Hours ebook offers valuable guidance on how careers can be shaped to maximize positive impact over time. With all these ideas bubbling around, you still might find issues these sources don't discuss, wildlife conservation, wilderness and biodiversity expansion or an area long neglected that needs your good efforts. Whatever your passion, this evolving landscape of problems offer countless opportunities for meaningful work now and in the future.

Of course, it's important to focus your efforts. With around 80,000 hours in your work life (40 hour weeks X 50 work weeks = 2000 hours per year X 40 years of work = about 80,000 hours of work), your ability to make an impact at once large and at the same time, it is limited block. You will not be able to do everything you are capable of doing! So it is important you prioritize the time you have. You can't do everything? This section of the book will help you clarify your choices and outline what's important to you as you move forward. Consider the following questions as a foundation for your decision-making. These are not simple yes or no answers—they're designed to push you to reflect on your values and priorities. Use these questions for discussions to round out your perspective.

## Would you Rather?

Would you rather have a high impact job that takes most of your waking hours and energy or do you imagine you want the satisfaction of family life, settled in a home location?

Would you rather earn a higher salary in a neutral field and then donate 10-30% to climate change efforts, or work directly tackling climate change?

Would you rather apply your skills in your home country or would you go where the impact is greatest?

Would you rather choose a climate problem that effects disadvantaged communities or those with the greatest global effect?

By exploring these questions, you'll begin to shape a career that aligns with your personal values and the impact you hope to achieve.

Let's look at your career rippling through the global society. You already recycle what you can. Maybe you write letters to legislators and sign petitions and march in a number of protests. Your reusable water stainless steel bottle goes with you everywhere. Good for you! Now you're ready to create a cataract of action with your climate career that reaches far beyond your carbon footprint!

By the way, the idea of our "carbon footprint" was foisted on us by the fossil fuel industry. They wanted us to think we are solving the problem while they kept doing business as usual. They wanted to make us feel we were guilty of not solving the problem as we didn't recycle enough, or drove too much. The size of this problem is too large for one individual to solve by living a little more sustainable life. So where do you go to make your ripple into roaring cataract?

## A Short Cut! A Rating System for Solutions

Project Drawdown (book, website and newsletter) is an excellent source of ratings for the various large scale solutions to climate problems. These people did great work for you! (And they are not done!) This creative project includes analysis no individual could ever do in one life time. Therefore, I recommend you lean on their research to help you decide where to put your effort for climate solutions. An example is Bio-char. It might be a new concept to you, as it was for me. At Project Drawdown you can learn about this process and so many more. What you will find quickly is an analysis of how atmospheric carbon is projected for removal by using Biochar technology. Here you can find the costs are and what the monetary return is. I don't expect you to make Biochar your problem to solve, but I think it is a good example of how unusual and unique the opportunities for grappling with the climate issues are.

The solutions are more diverse than I would have guessed before I read *Project Drawdown*. The expert panels analyzed the options and chunked them into sectors that are easy to understand. It should be possible to find an option that fits your values and interests. Then you can see the amount of carbon is related to that problem which is an indication of potential improvement to be had. Project Drawdown is an example of a very large team project that makes a huge impact in the climate careers of thousands of people and in the future quality of life of even more.

## What You Need to Do about Solutions

**Project Drawdown** provides valuable analysis, but it does not identify specific careers within the sectors it examines. It won't tell you how to create proposals to solve problems, nor does it highlight the companies and nonprofits driving change. Most importantly, it won't determine which field is the best fit for you—that's work you must do.

This book serves as a starting point, helping you explore careers and develop the skills needed to make an impact.

What you can do with Project Drawdown's monumental and well crafted analysis of the climate crisis, is search for additional organizations that do the work to make things better in each area. You will need to decide, given your current career capital, where you can make the biggest splash, solving the highest impact problems you can. You decide what you need to learn and where you are going to pursue your learning to prepare for you best shot at impact! If your job, your career doesn't work out for you, no one will care like you do! That's why this is such a personal process that you need to master for yourself.

Wherever you are in the world there are problems related to climate change that need to be solved. Your immediate job is to find a place where you can contribute your skills and gifts. As you research those options I highly encourage you to do one more thing. Go meet the people who do the job you want!

## Don't start your career without meeting and interviewing people who are already doing what you want to do.

Most of all, find out if you like these people. Satisfaction on the job depends on that factor more than any other. See what they do. If possible, find an internship so you are choosing based on enough solid, personal experience to know this is what you want to do. When you are ready to look at listings check out the daily offerings at climate.org/ and ProbablyGood.org as well as 80,000Hours.org.

To gain traction on reputations and to research the organizations, you will need to talk to people who are doing the work. Later in this book we will talk about networking to make the connections you need. For now, begin asking everyone you know about what they know and who they know involved in the fields of most interest to you.

## Why Use Your Career for Climate Change Intervention?

1. Your career is a commitment that you make daily. Work adds up to a major part of your waking life, that 80,000 hours we calculated above. Make a difference where it counts! You probably are going to work much more than that anyway, why not get paid to solve the problems that concern you most!?

2. Your career is often paid work. It might surprise you, but I include unpaid work as career work as well. For I'll focus here on paid work. When you you are paid you have the money to take care of your needs and that allows you to focus on your work. That opportunity to focus on specific goals day after day means you likely can accomplish a great deal more than if your climate change work is after hours.

3. Work is often a team effort in our modern world. That could mean you benefit from sharing ideas and information on a daily basis as you solve problems you work on in tandem with your team.

## Making the Career Fit for You

Your initial choice in any career is speculative. Even when you choose carefully with full data, things may turn out differently! Once on the job you may find your choice was close to what you wanted. You also could find there are others doing more of what you want. Or they are making a bigger impact without working any harder than you are! I know most people will have several jobs and a large portion will completely change careers. It's normal! Expect you will find reasons to move on, even after all your research.

In my first job after psychology graduate school, I did what most practicing psychologists were doing: meeting individually with one person at a time. At the end of the year I looked at my impact and added up the individuals I had seen. As a psychologist at a university I saw that there were far more people with problems I could help if I had a better delivery system than one-to-one. I wanted more impact from the hours I put in and I felt all students paid for and deserved my service.

What came next was a training program for students to help students with problems. Those problems were ones we identified as crucial to student success that could be addressed by trained student staff. Over the years that expanded to service classes for credit and working with faculty to reach students in need while expanding the student-to-student work and finding a bigger role for insurance to broaden the resources available off campus.

Mine was one path towards more impact. Other paths involve developing policy and legislation that expands programs and limits deleterious substances (drugs and alcohol) from the environment. Impact comes in many forms that often involve making partnerships and seeing problems from new perspectives. It's often valuable to see who benefits when a problem is solved. One person who learns to harness their anger before it becomes violence towards many is a powerful impact to have that can greatly effect the lives of large numbers of potential victims, their families and friends. My patient contemplating mass murder was redirected to intense treatment in a hospital before acting out his strong impulse. That was related to the system I was in that created the resource to hear these problems before they got worse.

In the climate field, a new technology can open new clean energy to replace the choking effects of burning stuff. As an undergrad I tried out physics as a major. At the time I was fascinated with the prospect of nuclear fusion as a major power source for the world. Fusion nuclear power was expected to be a world shaking breakthrough in 10-20 years. That was 1964. Fusion reactors would revolutionize the energy we use around the world! There are few things that would have a greater impact on climate change than a clean source of energy like that! The problem is, we are still 10-20 years from a working model in 2025! If you are able to push this solution to the final, commercially viable stage, your impact will be extremely large indeed.

Do you have the stubborn tenacity to dedicate your life to a solution like nuclear fusion when it has been and seems to still be so persistently beyond our technology? With our climate crisis, there are current problems that can be solved with existing technology. The most stubborn ones will take special commitment that will have huge societal as well as personal rewards when resolved.

A new approach that transports a larger portion of food fresh and safely to market will have a huge impact on reducing the amount of real estate needed to feed the planet's people and a concurrent impact on the energy used to produce and distribute food, not to mention addressing food shortages and human suffering. These are the ways we move forward in addressing climate issues and making a difference.

Expect you can add to you career capital by building skills and making contacts and learning about the field while you are looking for bigger roles to play. Don't lose sight of what you want and how you can use your early experience to position yourself for the next move. Being "just and individual counselor" was great preparation for designing and implementing program and policy answers to the problems in mental health.

• • •

I heard about Nate whose career move was documented on podcast. Nate was working as a journalist covering environment and climate issues. His work was productive, he was making a living and getting published. As he covered the move to electrify everything. He thought the work looked interesting and imagined what it was like working to bring more electricity solutions to market himself. He wanted to move from telling people about climate friendly jobs and become the hands-on person in the field! This is someone changing the mode of the impact they have!

Nate started training as an electrician and found it was as satisfying as he projected, especially the apprentice (on-the-job training) aspect. He continued and is completing the education and work required to become licensed as an electrician. He has installed alternative energy for solar and wind. His work also includes installing heat pumps for cooling and heating. Exactly what he had in mind. His research for his article prepared him for this move as it identified the need, the preparation route and gave him opportunity to talk to electricians doing what he wanted to do! I doubt this is the last position Nate will have in his career as he seems to have the skills to see the next step where his impact will be needed.

Seems like being a journalist is an excellent way to get paid to research things you might want to do next! Even if journalism isn't in your future, the sort of research

they do is of real value to find what you want. Especially the part about **meeting the people doing the work and asking them all your questions**. What do they like? Is the work as good as they expected? Are there things they don't like? How long does it take to prepare? What's the best route to this job today? More on this later!

For Nate, this hands-on work was more satisfying, as he says because he can see progress where new equipment was installed. People like him often like, maybe need, the concrete outcome where they can point to what they actually did. Writing articles was to abstract. There is little feedback and only words to show for your work. Actually, I like have written things and sharing them. So there are real and important differences among us all!

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## Making a Better Green Fit

If you are ready to work on building a better fit, here is a personal approach. Let's make your career more compatible to you. Getting more of what works for you leads to greater satisfaction. So move along to the part of the climate monster that you are going to be most satisfied working on so we can make the most impact possible.

The reason I keep emphasizing the idea of interviewing your future colleagues in their work is that I saw this crucial piece developing the next step was side-stepped by so many people. When my very extroverted daughter also seemed to be avoiding this, I knew this is difficult for most people to do. Use whatever trick you can think of to make this more likely you will follow through. Try imagining you are writing a news article about the field and need these interviews to fill out your story, like Nate above. Or consider this to be you on a spy mission to learn the inside story about this business, this career and to carry out your critical mission. It is a critical mission!

This is the way you get to ask experienced people the very critical questions. What would they do differently today to move into this field? What is there they didn't

need to do to get to this position? What problems are they working on now? Do they have the resources they need to solve the problems? Do they like the people they work with.

People who love their work have time! They will make time to tell you what they do and they will encourage you on your way. If anyone says they don't have time, don't worry, my experience is those folks are often in careers that are not working for them. You don't really need their advice! And imagine how you will want to respond when you get into a career you like if a person like you is trying to break in. The bottom line here, is don't leave this information interview step out!

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## The Better Green Fit is Personal

There are many people who would rather write about the climate issues than climbing around in an attic to connect up a heat pump. The point here is to look at the outcome you want to see at the end of the day. If you are good with abstract products, then journalism can be very rewarding. If you need to see physical progress, then you can see why Nate took up the training to become an electrician! Clearly Nate's route is for him,  while you might be looking at international policy making before this is over, or something equally far afield.

Personally, I am happy writing about climate careers and issues. It is abstract so I don't usually receive feedback about the results. So I have to be satisfied imagining there will be people who implement my work and make an impact on the climate change issues. I like the idea that I am helping others move their career to a better place. Would it be satisfying to hear my work was a success for people who benefited? You can send me a review of the book and what you are doing.

## Other Career Factors

This Venn diagram is another way of checking on major components that you can examine as you figure out what fits, or fits better. Answer the questions posed in the circles in writing. Then look for the green careers where your responses overlap. That's your sweet spot! Vocational research suggests your greatest satisfaction comes from your co-workers. If you don't like them, we found, you are rarely satisfied with the work. Next write down your values, interests and skills to fill out a description of a better fit for your green career. It's quite possible you won't know which green careers fit your criteria.

I'm going to say this again, start talking to people working on your chosen problems. Ask them about the fit you're looking for. Is it there? Is there someone else working on this problem who fits your criteria better? Can you talk to those people? Maybe you will find your own Venn diagram more valuable. You can list the problem(s), you want to work on, the location in the world where you want to be, maybe there is faith-based piece of your puzzle to consider. The point is, you should own the process and come up with a way to define what you want in your career. You will need to be able to communicate that with your contacts as you move along with your work of creating your next job, your career.

Under **values**, you can work on the impact you want to have along with what problems concern you most that you want to help solve.That **SWEET** spot right in the middle is the target you can aim for that will have you making an impact that fits your values while working on interesting problems with people you feel compatible with. Finally, you will have located a position where you are using the skills you want to use and learning new skills and techniques. That collection of positive factors in you career will make you more effective at work.

## Summary

If you think what you are doing isn't helping to create climate solutions, go look at our best places. The wilderness, especially the really large roadless areas that exist in Canada and Alaska. They are worth saving for yourself, your kids and for all the wonderful wiggling, trotting and waving organisms that live out there. You can make a difference! This process is worth wading through so you can have that impact.

Next I'll share with you a way to use a forced-choice decisions to create a priority list to arrive at career choices you are going to be considering!

## Priorities: Make Climate Your Career Problem

Make climate your career problem? You can't do it all, but that's a good thing—it forces you to focus, for now. Or maybe you want to try two or three things at once to keep it interesting! In the last chapter, we began tailoring a career that fits, for now. Peter Drucker, a giant of success, once said, "Here I am, 58, and I still don't know what I'm going to do when I grow up." If you had to decide once for your whole life this would be quite daunting. That's not what you are dealing with, pivot points will arrive and you will decide to continue or move on using your recently honed skills.

Drucker pointed out in *Psychology Today* (1992) that while we know what we *don't* want to do, we often struggle to pinpoint what we *do* want. It's the same today. That's where this book comes in: let's get you started in your search by reducing wasted time and starting you to work as soon as possible. There's no better way to know you like something than to actually do it. Drucker believed this, 80,000Hours confirmed it, and I've seen it too. What Drucker didn't have working for him was a sense of mission to have impact on the climate issue and that is a colossal focusing tool for your career.

A physicist I met likened his career discovery to riding a streetcar: "I got on as a freshman, not knowing if I would like physics but found it interesting. After earning my BS, I stayed on and eventually realized this streetcar was going the right direction for me. Still is!" He noted after many years beyond his Ph.D. followed by a faculty position in physics at UCSB. Not everyone finds their ideal streetcar that easily, but that's okay. The point is to get on one and see where it goes. But don't stay on when it takes a turn that's not for you!

That happened in my undergraduate career in physics. I was really excited about physics but not so much with the higher math required to be successful in higher level physics. I started checking with physicists and found that most of the work required daily applications of higher math. Not only was I having trouble with the math, I didn't like wading through it.

I've met countless people who have been told they can't pursue the career they want—or worse, that they shouldn't even try. This is especially common when someone doesn't fit the typical mold of a profession. A female friend dreamed of

becoming an astrophysicist, but when we were in college, she was told that women couldn't do that. She was brilliant at math and deeply passionate about cosmology —she would have been a great astrophysicist. She turned out to be a great vocational psychologist instead! Good for lots of people touched by her research and practice.

If someone tries to block your path or discourage you from following your career aspirations, consider them an obstacle, not an authority. A simple response? "Thanks for your opinion, but I'm not changing direction." The key is making your own choices. When I moved on from physics, it was because I decided to—not because someone told me I couldn't. And that made all the difference.

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## The sifter approach

Career paths typically go from general education, service learning, part-time jobs, internships, apprenticeships, to specific training and work followed by retirement. This "learn, earn, yearn" cycle, as described in What Color is Your Parachute, a book in print, and constantly updated, since 1972! It shows that at each phase of life, you learn what fits and what doesn't. Keep track of what excites you after doing it for a while, and ditch what doesn't.

If you mix learning, earning, and yearning well, you can stay energized throughout life. Your experiences will guide you to sift out the parts of a job that don't fit—use that to narrow your focus. Keep a list of the things that do excite you and adjust as you go. You do the same thing with hobbies and sports you engage in, right?

Keep all the good stuff on your list. I do mean an actual list, if you haven't started one, it's time.

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## Listing to sift

Go back through your experiences and make two columns. Things you liked from your internship, school, apprenticeship and last job. Include the people you liked and didn't, **by characteristics** that make sense to you. List the **skills** you used and liked. Then the skills you are willing to use to get to do stuff you like. Maybe that's a third column; things you could tolerate in service of your goal. I used to do

computer consulting early in my career, which I came to dislike. Later I quit telling my new boss and colleagues it was something I could do. I was done being the computer consultant!

I am using gravel at home this week, so I am into sifting! At the end of your career sifting the result had better be more cohesive than a pile of gravel! Right? Your lists can further sort into categories: 1. Sort the functions/activities at school, or work you found worthwhile: What made it come alive for you? 2. Who do want to work with more (define the characteristics that appealed to you). 3. People you like serving as customers, clients or patients. 4. What were the responsibilities that used your potential as a student or worker? What topics would you want to learn more about on the job? 5. What skills did you use? Sort out the ones most satisfying to you.

If the answers to the questions in the last paragraph keeping coming up blank, something is wrong! Maybe you haven't moved fast enough between streetcars to have enough experience to find things you like? Maybe you are too depressed to have anything tickle your fancy? If that's the case, get busy working on that, as it doesn't yield to moping around. Find a therapist and dig into your depression and move on. Or maybe you have been in a low economic situation with too few opportunities for options to see work you might like.

Whatever the answer is, you need to keep pushing your way to more experiences so you can see not just what you don't like, but the things that make you light up. Look for internships in other markets. Ask your friends and relatives about how to start up in additional fields. Keep skipping streetcars until things start feeling right! By the way, you don't have to be a student or young to be in an internship. One of my midlife staff members went to a local art gallery and developed an internship to obtain experience in that field.

This how to guess better about your streetcar!

## Forced Choice to Prioritize

Below is a forced choice table for comparing each criteria with each other criteria. Like the questions “would you rather”, this is where you compare each of your criteria with each other one. Forced choice invites you to decide in the moment between two paired things and to allow no middle ground. Usually that makes one think about the choice without the opportunity to waffle in-between choices. You might like both choices, but if you force yourself, maybe you can learn something about yourself in the decision making. Try it knowing this isn’t for keeps and it may help you clarify what direction you want to take.

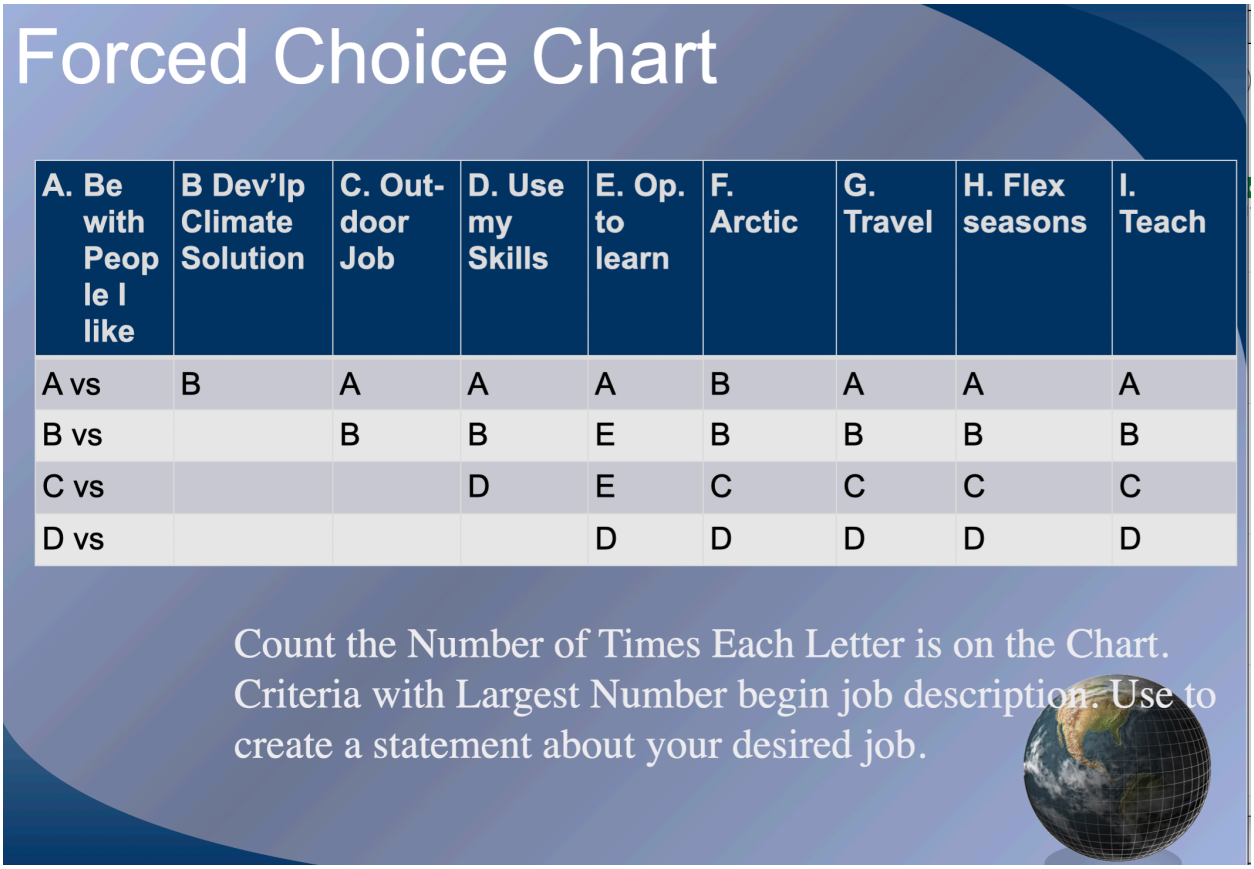
Would your rather work with “people you like” OR “Develop climate solutions?”

Then: Would you rather work with “people you like” OR “Have an Outdoor Job?”

Then: Would you rather work with “people you like” OR “use your skills?

You can think up a series of other values to compare, problems you like, and issues that are deer to you. The arrive at a group you think are important and use the table below to put your criteria into a formal set of forced choices and then see the outcome. I filled it in, but you will put your own criteria from your lists into the boxes. You can make as big or small a table as you need. Then you compare criterion A with criteria B and all the rest. So in my example you see what I chose. I compared A and B and decided to B was more what I rather have in my career. So I put a B in that first box below the Criterion B. Then when comparing A to C, I chose A and you can see I chose A when comparing to all the rest.

Above I filled in the table showing you how it works. To sum it all up you count the number of A’s you put in the table. In mine, there are six. Then do the same for all the others. Mine has seven B’s. There are five CS and four D’s. Keep going with your other criteria.


Forced Choice Chart
A. Be with People I like
B Dev'lp Climate Solution
C. Out-door Job
D. Use my Skills
E. Op. to learn
F. Arctic
G. Travel
H. Flex seasons
I. Teach
A vs B A A A B A A A
B vs B B E B B B B
C vs D E C C C C
D vs D D D D D
Count the Number of Times Each Letter is on the Chart.
Criteria with Largest Number begin job description. Use to create a statement about your desired job.

**Your Forced Choice Table of Prioritized internal criteria**

Start in the left most column, make up your own table and write your criteria along the top. When you finish, count up the numbers of As (best for you) Bs and so forth for each of the criteria and that will reveal which is most important to you, the criteria with the most ones, then the one with most twos and so on.

Start with your most important criteria and then those next in order from the table and write a summary statement of what you want in your career. Using my sample set of choices, here's what that might look like: Most important criteria first: "I want a career where I work with (add in your characteristics for people to work with here)." That's your first statement. Then: "Using my skills in (again you enter your own skills you sorted out above). Clearly I want to work developing climate solutions (B) and work with people I like (A) so any career I look at must have these two options. I will be leaning towards outdoor careers (C). The other criteria

don’t matter as much and I might not mention them if I feel my first set capture the main direction I want my career to take.

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## Make and Polish a Statement about What you want

You might decide all this sorting doesn’t fit your sense of how to land on a career. It may feel too number heavy and you are more intuitive. At least having a list of criteria will be something like a reason to choose from the map of where those streetcars are going and getting you started working, which is usually the final refinement. I recommend you try this sorting business once and then pitch it if you don’t derive some sense of forward motion!

Here is an example of a statement about criteria. Try using your criteria to assemble a positive description of what you want in your career. Here’s a sample:

"I am concerned about food transportation challenges, collaborating with professionals who prioritize getting fresh food to people with minimal spoilage. Currently, one-third of all produced food never reaches the table. I aim to leverage my skills in systems analysis to cut spoilage and waste in food distribution. I'm particularly interested in streamlining communication among farmers, markets, and transporters and in utilizing the best refrigeration practices to reduce losses. I’m also excited about using technology to expedite fresh food delivery, ensuring that the resources invested in growing food aren’t lost before they reach people’s plates. Reducing food waste is essential to maximizing the impact of our planet's resources.”

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### Using Your Statement

This is your ‘elevator pitch’ for when you meet people. Think of it as a punchy, two- to three-minute statement that captures what you’re working toward. Take the time to polish it until it feels natural for you—then share it! The more people you tell, the sooner you'll connect with the right fit in the market. Tell everyone you know. We’ll explore networking strategies soon, including how to connect with a range of people who can introduce you to organizations and career paths aligned

with your goals. Remember, you don't have to do this alone. Often, finding the best opportunities start with sharing what you're looking for with those already tackling similar challenges.

## Solving Climate Crisis Problems based on the Person you are!

Mary Annaïse Heglar has written in *Wired* (April 1, 2020), "What can I do?" Well, now that you understand that the question is complicated (*regarding the climate*), the answer actually emerges as quite simple: Do what you're good at. And do your best."

I like Heglar's response. She says get started! Do your best! I would add, "might as well go for the greatest impact you can!" Why work at something doing your best and having a quarter the impact you might have had by taking it a half step further?

Now let's aim that inspiration! We'll walk around the climate crisis and find a handle and latch on. No one else can tell you when, where or how to make your mark. No one knows as well as you what makes you tick and where your motivation comes from. I am assuming you're here because you're angry about the climate crisis, or you're scared of what it's doing to you and your family. That's the fire we should harness!

Like everyone else sizing up the climate crisis, you might think climate is "not something I work on." Try again. What can you do with your skills to contribute to the climate crisis? What do you bring to this fight? Who is doing something you admire you would like to do?

Let's match who you are with what you want to accomplish. I know from vocational psychology research, the people who are most satisfied are working with people they like. So look for climate work where there are people you like and respect. The reason I am talking about **satisfaction** in your work is I want to see you succeed, I need you to succeed! The more satisfied, the more likely you will stick with the work and punch through to success, for all of us!

Working full time or not, every major problem has handles. Grasp a handle based on your particular personality using the skills you developed. Define the climate crisis as you see it. What is happening that has you most alarmed? I'll pick one to get started, sea level rise. We could as likely take wildfire, or agriculture resilience or human migration, but we'll just take one for now.

Look at what that means, sea level rise. Many people, 50% of humans, live near the coasts. With the emergence of new, larger and more frequent storms those people, their homes, their businesses and their livelihood are in danger. In some

island nations, their land is being inundated and lost to the sea and some villages and cities on very low land near the oceans have lost land and housing already. This is a problem caused by melting glaciers and ice packs and will continue even with no further contributions to carbon emissions.

What will solutions look like? The obvious solution is to cut back carbon emissions everywhere. That will slow the rate of sea level rise and stop it at a lower level than if carbon emissions continue unabated. No hand wringing about personal choice on your carbon footprint at this moment will suffice, even though that is worthy. What career response could you make that will create action at the largest scale? Let's just focus  the specifics related to sea level rise and not carbon emissions. We could choose that as the focus of our career just as well.

You can see why it's easier to want to believe, "there is no sea level rise. It's a hoax!" This is a thorny problem that means trouble for millions of people, not in ten years, but already, last year, the year before and the next to come. So you have to be tough to take on a big issue like this. You won't be able to solve this problem by yourself. Even to have an impact here is going to take clarity of purpose and application of all your abilities.

I am going to use a personality model I've used for years from John Holland (*Making Vocational Choices*) because it yields a variety of handles and responses to help you see possibilities you might not when you start to consider the options. I am not going to name these personality types, but describe them so you can identify which two or three might be comfortable for you. The goal is to find people you relate to, not name each group. Probably the best part of this exercise is to see **there's never just one way to approach a big problem like sea level rise!**

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**Six Different Views of the Same Problem**

**I.** First, let's look at this from the perspective of a creative person who might be a performer, a graphic artist or cartoonist, a painter, a writer. You get the idea. What could you possibly contribute to solve the problem of sea level rise? Dwell a bit, do you see yourself in this group? How do you see this problem? Probably you define the problem differently than I have. Remember, a problem may provide many insights as different people define it.

Perhaps your contribution is helping more people understand and empathize with those suffering from this problem, that includes the loss of their homes and land. You might consider your art as a way for people to understand the issues and reach beyond the place where they deny the impact of climate change. Developing a way of understanding how our world is changing could prepare people for the transitions necessary to move people out of harm's way. Art can bring new resources to bear on the problem, whether it's funding, volunteer work or alliances among businesses and governments.

I.Writing and filming the stories the way we want them to turn out and showing alternatives that are not dystopian could produce energy to try alternatives new in government, in non-profits, in architecture or engineering. Use your creativity on the vastness of the problem and struggle with new ways to see the issues and present responses we need.

II. A very concrete view of the world takes notice of how this problem settles on our seashores. If you're in this group, you like to see a product from your work. At the end of a project you can say, "I built that." Consider how the problem presents itself. Rising sea level sounds slow, but the dynamics of super storms show us our lack of preparation with an abrupt brutality as we see now year after year one hurricane after another. People will not recover from these disasters in weeks, or months. It takes years.

What can you build that will protect these shores and the people? How do we replace the tidelands, mangroves and wetlands that were the buffers to wild storms? Is it possible to build a structure for wild coastline to rebuild itself as that buffer we need? Jacques Cousteau imagined floating islands decades ago. These island might be for communities to live on or places to work. Is there an idea that radical that might have merit in our future as buffers, as living spaces, as protection for coral?  Kim Stanley Robinson, in his sci fi book *New York 2140* imagined salvaging the buildings still standing above the new sea level for continued use. Maybe that suggests something possible to you. If you revolt at that, where does it send you to think of as an alternative? The increasing speed of the snow packs melting might be slowed through some mechanical means, is that an interesting problem for you? How about the sudden glacial and subsequent lethal floods in the high mountain Himalayas?

**III.** For those who are looking at the world through the perspective of the bottom line and the details, I've likely made you squirm with big problems and suggestions costing big dollars. I know we need you in this fight as well. We talk in

this context of billions and trillions of dollars and it sloshes both ways. We can't afford to fix rising sea levels and we also can't afford what it costs to repair Honduras today, let alone the costs to Miami still to come! Behind the disasters are the cost to absorb the migration of people without hope who will be looking somewhere for opportunity. This will take the fullness of your attention to find ways to fund and finance the greatest projects of humankind. When you think there's no way, you need to think bigger and find a way! The Marshall plan rebuilt Europe when the world was strapped for cash at the end of World War II. What was the creative financing involved there and can something as brash take place now? We need something better than making each nation an island cut off from all others.

**IV.** Those who start and run businesses, we need to roll out great new projects. This is a chance to think beyond the usual business structures and alliances that create new ways to cooperate with haste. When the California Northridge Earthquake knocked down the freeways and stopped the flow of people and goods the creative response was quick and it was effective! The head project contractor worked with government inspectors in tandem in ways that created a flow rather than the usual stop and go in construction. When government said there would be fines for being late the contractor demanded incentives for completing early. And they did complete the task early! Maybe the political arena is where you fit in? Or developing non-profit responses to sea level rise. Or starting the next international business based on climate issues.

**V.** The scientific community brought their data and models to bear on climate change and gave us a fact-based understanding of the possible rate and the parameters of the range from least to greatest we can expect. The continued monitoring is important. The study of damages to coastal areas needs better understanding. More research on how to populate buffer zones with hardy species that take hold as quickly as possible could yield new opportunities. We also need all the possible resources that might come from scientific discovery for carbon sequestration to possible alternative energy and energy efficiencies. Materials science has a key role to play providing the materials that go from cradle to cradle for continued use.

**VI.** Teachers and social service people will contribute by organizing the response to displaced people. Public health issues, re-settlement options all need to be communicated rapidly and effectively. Social organizers are already at work in keeping the political process responsive, responsible and mobilizing people with the skills and resources they can bring to bear especially in their local

communities. Developing empathy and understanding as we create huge responses to enormous problems at a time when the trust of any facts, let alone science is at a colossal low. The studies of conspiracy propagation and misinformation is underway and it will be useful in knitting together community responses from grass root to international cooperation to have this work.

These six strategies are based on the personality types Holland discovered in his research on people at work. Sharing the work with people with similar personalities can be highly rewarding. People who like their co-workers are more likely to be satisfied with their work. When it comes to the hard work for overcoming the harsh reality of the climate crisis, it will help to be side-by-side with people who understand how you think and will respond in concert with you as you match wits with the problems.

Finally, there are key positions for those who work with everyone. They see the crucial contributions from a diverse set of workers who have their own individual perspectives of the problems and the solutions we glanced at briefly above. If you have the skill and interest to knit together teams that bridge these vibrant workers you have potential for great impact in making large scale solutions come to bear on huge problems.

# Step 2. *Where* are you going to work?

## Networking for opinion, information and pathways to future internships and jobs

**Where are you going to work?** People often think of networking as a way to find a job, but it's also one of the best tools for exploring career options and understanding what path may suit you. This is, of course, the way to find your location, your organization and your people. By connecting with professionals, and engaging in meaningful conversations, you gather the insights needed to understand different fields and how they align with your strengths, interests, and goals. Networking opens doors to internships, shadowing, and real-world experiences that offer a glimpse into various roles, which helps you make well-informed career decisions.

Networking can feel daunting, especially for introverts. The idea of reaching out, asking questions, and sharing your goals might be overwhelming. But think of it not as "selling yourself" but rather as an opportunity to learn from others in a way that benefits both of you. Most people enjoy sharing their experiences and are eager to help others navigate challenges they once faced. It's also their chance to review **what they want now** from their career. Your curiosity and genuine interest will often make them feel appreciated, respected, and motivated to support you.

## The Learning Power of Networking

When you speak with professionals, you'll gain firsthand insights that go beyond what a job description can tell you. Conversations can reveal what a typical day looks like, the skills needed, and the challenges they face in their roles. This understanding can help you decide if a field aligns with your strengths and goals. It's an insight that 80,000Hours.org, a career research organization, found quite valuable for helping people make informed career decisions.

Networking also leads to opportunities to different fields firsthand, through internships, shadowing, or project-based collaborations. These brief information interviews are powerful samples of what you work life can be. Through these experiences, you will discover roles or specializations within a field that you hadn't considered.

## *How to Network and Conduct Productive Non-stressful Information Interviews*

## Don't start your career without meeting and interviewing people who are already doing what you want to do.

I am going to make a recommendation that you boldly meet people doing the work you want to do. First of all, find out if you like these people. Satisfaction on the job depends on that factor more than any other. See the location, meet the people and ask questions that will help you decide. You are going to learn how to use your contacts to make a bridge into the world of work by interviewing people who are already at work solving the problems that concern you.

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### Networking for opinion, information and pathways to future internships and jobs

People often think of networking as a way to find a job. You should use the resource that way, but first, learn to use networking as a bridge from where you are to understand the options of where you could be working. Its the best tool for exploring career options and the means of entering the field now. This is, of course, the way to find your location, your organization and your people.  By connecting with professionals, and engaging in meaningful conversations, you gather the insights needed to understand different fields and how they align with your strengths, interests, and goals. Networking opens doors to shadowing, internships, and real-world experiences that offer a glimpse into various roles, which helps you make well-informed career decisions.

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not as “selling yourself” but rather as an opportunity to learn from others in a way that benefits both of you. Most people enjoy sharing their experiences and are eager to help others navigate challenges they once faced. It’s also their chance to review **what they want now** from their career. You may be doing them a service by asking your questions! Your curiosity and genuine interest will often make them feel appreciated, respected, and motivated to support you.

In general, I’ve found most people are willing to take time to talk to a motivated person about their work. Especially if they like what they do. If your target person won’t talk to you, it may be things in their job are not going well and it’s too painful to review that. Give up gracefully knowing it’s more often about their situation than you.

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## Networking Tips for Introverts seeking information interviews (that work for Extroverts Too!)

Networking may come naturally for extroverts, but for introverts, it can feel like a big task. I saw one of the biggest extrovert in my family stall at the idea of going out to make cold information interview calls. Here are a few tips to make it easier and more rewarding:

1. **Start Small:** Begin with people you're comfortable with—family members, friends, or former colleagues. Let them know you're exploring options and looking for insights. Say at the beginning, "I'm not asking for a job." When you run through those first contacts, expand your reach.

   A strategy for making your information interviews more comfortable is to **team up with someone** who has similar interests. You will feel the support of your partner and one of you will probably think of something to say if there's an awkward moment.

   If you are referred by a friend or family member, ask them if they will make the introduction. In person is really great, but not likely. If they contact your target person in advance you'll know that person is ready to meet you.

   It's even more important to let your friend or family member know you aren't going to embarrass them by getting to your information interview and then ask for a job! Tell the friend specifically you won't do that!

2. **Ask the people you know** if they have a contact working on the problem you are thinking of. If not, do they know someone who might have a contact that's in the field. I am talking about all the people you know by first name. Let's include relatives and their off spring, and parents. Ask if they know anyone who knows someone who does the work you want to know about. That enlarges the field immensely!

3. **How Big of a list?** As a mild extrovert, I was surprised when I first started listing people I knew by first name, it was over 500 individuals. Your list will vary! Before you eliminate someone from your list, consider how unlikely it is that you know about all their contacts which may include exactly the contact you need. One friend I knew as a counselor had been an inhalation therapist, an auto mechanic and was also highly knowledgeable about exploring wild areas. I knew him because of common wild areas interest. People have more dimensions than you see at first.

4. **Focus on Learning, Not Performing:** Instead of "pitching" yourself, think of each conversation as a chance to listen and learn. When you're focused on understanding their experience, you'll naturally feel less pressured to talk about

yourself. Share something about the problem you are concerned about that you think might be part of your career. Ask if that is something they work on and if so, what is working for them. Ask for opinions they have about their field and then ask if they would enter the same field again.

5. **When you make a cold call** at an office (you can do this), make the gate keeper your ally. Just open the door and go in! Ask the receptionist (gate keeper) who would they talk to in the organization about the field. Ask who is newest at work and would they be most likely to help me understand how to get started. Ask them if the target person is available right now. If not, ask if you can come back at a better time today. Make sure you let the gatekeeper you are not expecting a job today. Stop when you leave and let them know how they helped you. Let them know you are only here (geographically) for a short time.

6. **Cold calling is probably the scariest** way to do info interviews and it's tons of fun because you never know what you're going to find. I've done this by choosing an geographic area that has some organizations I want to meet with so if I don't land an info interview at one, I just move to another target. Consider that you are offering a break in their routine and a fresh perspective on the work they do. They are going to have to think about what's worth doing about their work! It's always good to consider that!

7. **Ask Open-Ended Questions:** To encourage meaningful conversations, ask questions that invite the other person to share. You can tell them you want to take notes. For example here are some sample questions to get you started. Customize your questions to fit your needs and curiosity:1.What do you find most rewarding in your field? 2. What advice would you give someone just starting out? 3. How does your job vary over a year's time? 4. Are there projects that you have to interrupt for some reason during your career? 5. Is my problem (wild fire abatement for example) one you work? 6. Is there some one in your organization who is doing more field research on wild fire? 7. Would you choose this career again today? Or this Job? 8. Where do you think you might go over your career? 9. What was your education that got you this job? 10. Are there other pathways, maybe your fellow workers took? 11. Would you recommend your pathway/education at this point? 12. What is most challenging about getting your problem solved? 13. Are there other organizations you

would recommend for someone to work on this problem? Write out questions so you have an anchor to start the conversation.

8. **Reframe the Process as Discovery:** Networking isn't about getting something from others; it's about exploring options and gathering insights. Even if it feels uncomfortable, it's worth pushing through for the knowledge you'll gain. It's also much easier to talk when you have a plan to learn about a problem of great interest to you.

For instance:

> "I'm interested in roles where I can collect field data and project outcomes over long periods, particularly in urban planning or policy related to climate resilience. I imagine my work might fit with government agencies or corporations focused on sustainable land use."
>
> This sparks creative thinking and may lead them to suggest people or organizations aligned with your interests. They might respond with, "I know someone who works in city planning; I'll introduce you," or even, "Have you thought about working with environmental nonprofits?"

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## 9. Give and Take: The Gift of Information

Networking is a two-way process. After meeting someone, follow up to thank them and share any updates about the steps you've taken based on their advice. People love seeing their help was meaningful, and it's a simple way to build rapport. If you come across relevant articles, projects, or insights that might interest them, share them as well. This give-and-take approach nurtures a supportive network and helps you be seen as a proactive and informed problem-solver in the field."

**Action Plan:** Get their contact information so you can reach out again!

By reframing networking as a way to learn and share, you can approach it with a sense of curiosity and purpose rather than obligation or pressure. Networking is a gateway to discovering new fields, gaining valuable knowledge, and building relationships that support your long-term goals.

**Action Plan:** Send a simple thank you the day after your interview. Let them know what you did with their help: You made these five contacts, you learned about a new field of interest, you found new research on the problem.

Some of these people are great mentors, so cultivate them by letting them know you appreciate their help. That's why you contact with a simple written note is all appreciated. "Thanks for your time and your opinions. I've contacted two of the people you suggested and am eager to hear what they have to say."

Do it immediately! If they seem engaged, stay in touch as things happen related to your meeting with them. Perhaps you will want to ask for their opinion as you gather more information.

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## 10. One Last Caution

When you conduct informational interviews, your contact may assume you're looking for a job. Be prepared to clarify this way, "For now, I'm focused on gathering information and insights. I don't expect a job offer." If they offer you a job or internship, it's okay to take a step back and express you're flattered but still exploring options to ensure you're on the right path.

Let them know you'll give their offer thoughtful consideration while continuing your research. You could say, "When I am done with my research, if I come back it will because I am committed to working here." This approach keeps the door open for future opportunities while honoring your commitment to finding great fit for your career aspirations. It also reveals your maturity and commitment to your career and likely increases your desirability as a partner in work.

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## How do I Turn This into my Climate Career?

Insider information is of no value unless you invest. In this case it's legal! You invest your time by taking insider information to the next level, locating the possible employers. They are in the news, they are in the newsletters and digital searches you have been following. Ask AI to find the most influential leaders in

your proposed field. Keep track of who is emerging with proposals and contracts in the fast moving field. Who has a reputation you like? Keep up with your mentor(s) and contacts discussing what you see. Don't expect them to find everything for you. You are much more impressive when you show up with the latest information and ask questions based on that.

When you learn about an organization of interest, ask you contacts for referrals to those people or organizations. Remember to ask them for others who might know these people if they don't. This is often necessary to ladder to the person you want to meet.

Take action, even if you're uncertain. Doing nothing leads nowhere, while mistakes are valuable learning experiences that help you improve. Expect to learn from your errors, and keep moving forward!

# Location, Employer and Location of the Problem

The “where question” resolves after you have a bead on “what” you are going to be doing. You may be open to move anywhere. That could make things easier. Even then it’s much more productive to select a specific location than to search “everywhere.” The latter is not really sustainable. It’s too much of the shotgun approach where all your energy is dissipated instead of focused on completing your task of actually finding a career fit.

It takes energy to locate the employers working on the problem you want. You need information on their resources and reputation. Are they doing what your initial research told you, or are there concerns that develop as you hone in on the organization, the people and the resources? If you try to do this all over the place it is more difficult to do a credible job of researching. Your network of contacts is one of the best ways to whittle this process down to a match of what you want with where it will take place.

If you need to be in a certain geographic location for any reason, then clearly you have to develop what exists there **or** what you can do remotely from that location. We will come back to this below.

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### An example of location and opportunity

The geothermal industry is starting to *heat up* (pun intended)! Currently, there are a number of experimental projects underway, focused on overcoming the challenges of drilling to deep enough depths cost-effectively to ensure a good return on investment. These projects represent the cutting edge of geothermal energy.

On the other hand, conventional geothermal projects are placing generators near naturally hot spots which are closer to the earth’s surface, where drilling requirements are less extreme. Choosing to work in the conventional area likely means relocation to sites near limited population centers, as geothermal resources are often remote.

Beyond site-specific roles, there's also a growing demand in materials science, where research on high-heat, high-strength materials is crucial for managing supercritical water (over 400°C) and developing 12,000 foot deep drilling rigs using microwave technology. This opens up lab-based opportunities away from field sites. Research on rock mechanics, particularly on brittle-ductiles, is also helping us understand **if** rock at high temperature can be suitablely fractured and then, **how** to fracture that rock for maximum heat yield at the generator on the surface.

In addition, the complexity of geothermal funding models offers even more job opportunities, with work sites in business, finance, and policy. This diversity is a hallmark of climate-related projects, where initial site expectations often evolve, revealing a range of opportunities that extend beyond what you might first imagine.

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## Geography Choices for you

Let's do a couple of those forced choice questions here:

Would you rather go where there is a high impact need, or work where you like the geography and the lifestyle more?

Does making a high impact mean as much, or more to you than your comfort and convenience of your location?

Would you rather be near your family and friends, or go where the best resources exist for solving the problem you have chosen?

Would you rather work remotely to deal with high impact solutions, or work on site with co-workers so you know your fellow employees and management better?

Start a list of criteria. What do you need and want in your location? You might include the site issues visited above as well as weather considerations. How about access to family and family housing? What about transportation needs?

You will benefit from doing a list and returning several times. Most of us don't hit all the important factors in the first round of listing. Then you can use the priority grid to force your thinking to compare the options like we did on job criteria

earlier. Or use your conclusions to discuss with people you trust and those who have a vested interest in your decision.

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### The Organization question

The “where” question also applies to types of employment. The world of work is much more vast than most people have conceived. So let’s flesh out types of employers briefly.

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## Organization Possibilities

When I use the term “organization,” I mean it in the broadest sense, covering a wide variety of structures and purposes:

1. **Corporations** are publicly owned entities accountable to shareholders. Their primary mission is profit generation, insuring returns for investors through stock performance and dividends.
2. **Private Businesses** are owned by individuals, partnerships, families, or trusts, with the central goal of earning a profit for these private owners. These businesses vary widely in size, from small local shops to very large family-owned enterprises.
3. **Non-Profit Organizations** exist to fulfill specific social, educational, religious, or charitable missions. They aim to provide public services or benefits and often receive tax-exempt status from the IRS (in the U.S.) due to their dedication to public good over profit.
4. **Not-for-Profit Organizations** also pursue goals beyond profit but are generally focused on specific interests or activities, such as sports leagues, clubs, or hobby groups. Unlike non-profits, they’re typically created to serve the interests of their members rather than the public at large.

5. **Government and Tribal Offices/Agencies** operate across federal, tribal, state, county, and city levels (and other jurisdictions) to provide public services, enforce laws, and collect taxes. Each level has its own unique scope and responsibilities, impacting everything from education and public safety to environmental protection.

6. **Non-Governmental Organizations (NGOs)** function independently of government control and typically focus on social, environmental, humanitarian, or developmental issues, working to address challenges where governments may have limited reach or differing priorities.

7. **Universities** vary in structure and funding. They can be public (state or federal) or private, and within the private category, they may operate as either for-profit or non-profit institutions, each with distinct missions in education, research, and public service.

8. **Laboratories and Think Tanks** are dedicated to research and idea development. They can operate as part of a larger organization, such as a corporation or university, or independently as private or non-profit entities, contributing critical research in fields ranging from technology to social sciences.

9. **Sole Proprietor Businesses (You Inc.)** represent individuals who work for themselves. Many students dream of this path, and it's very feasible—most U.S. employers are small businesses, with a significant portion of them owned and operated by a single individual. This model offers autonomy and flexibility but also requires a high degree of self-reliance and discipline. According to Motley Fool (n.d.), "while 99.9% of all businesses in the U.S. are classified as small businesses, they employ less than half of the workforce -- 47.3%, or 59.9 million people, according to 2019 U.S. Small Business Administration statistics."

If you keep your scope open you may find opportunities otherwise overlooked. What you see above is the barest of descriptions for these types of organizations. When you consider working for any of these employers plan on more research so

you understand the limitations and expectations for the one you might be joining. It can be important over the course of your employment.

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### Narrow Down and Target Where to Work to Make Your Job Search Pay Off!

Identify ten to twelve target organizations where you could envision yourself making a meaningful impact. Focusing on a limited number of organizations allows you to concentrate your efforts and keep up with each one effectively. Keeping track of both organizations and the people within them is key to a successful job search.

When you eliminate one of your target groups, you may want to add another, especially early in your search so things don't become too narrow too fast. Later in your process, the narrowing could be helpful so you have more time on those you feel more certain are likely employment possibilities.

1. **Research Organizations' Reputations**
   Investigate each organization's strengths and reputation. What are they known for doing best? Have they made significant contributions to climate solutions that incorporate social justice? Look into their community standing and the specific strategies they employ to tackle climate-related challenges. Use your own values to screen organizations so they custom fit you!

2. **Build Contacts Within Organizations**
   Actively network with employees within your target organizations. Engage in meaningful conversations to understand the resources they find valuable and any limitations they face. Ask them to keep you in mind for upcoming roles—very often, employees are aware of transitions before official announcements are made. Many people work closely together and they share their life plans, including their decision to move on from their employment. Remember to respect internal policies and avoid putting anyone in an uncomfortable position regarding sharing information they should not for proprietary reasons.

## Identifying Resources and Assets to Support Your Career Goals

Understanding the resources you'll need—and recognizing what may or may not be available in a role—is essential for your success. When evaluating a potential employer or organization, consider the tools, support, and opportunities they offer that will help you complete tasks effectively and grow in your career. My career moves were all to distant locations. Distant moves for a new job is a special risk that means unusual diligence should be employed to be certain this decision is likely to be beneficial and not a costly mistake.

I moved from Oregon, to Iowa for grad school. I knew I could recover from that move without out much loss. From Iowa to Virginia for my first post grad school job. This time I had to have a job and I didn't want to continue in Iowa, so the risk/benefit ratio seemed about even. Then from Virginia to California for my second. This time I had a great job and I was hoping my next one would be even better. Having that fail seemed much more risky. My next interview was in Colorado and then one back in Oregon. The scouting efforts and research were helpful in making the final decisions on those.

With that sort of long distance job, it is far more difficult to learn first hand about your employer from local people. If you live where your target employer lives you should be able to learn a great deal about them and their reputation by checking with all your contacts. The distant employer means more formal work and taking advantage of your contacts who may know people at that new site you are considering.

### Here's how to break down and assess resources each organization might provide:

1. **Technical Equipment**
   Certain roles, especially those in research, engineering, or environmental science, require access to highly specialized and expensive equipment or advanced technology. For instance, does the organization offer field equipment, lab facilities, or data analytics tools you'll need for the work you envision? Look into what's provided and, if necessary, if there's a budget for new or custom tools. Ask about equipment upgrades or investments in technology.

## 2. Training and Development Programs

Continuous learning is often essential in fields related to climate work, where technology and best practices are rapidly evolving. Does the organization support professional development through workshops, certifications, or training in specific skills? Knowing whether they prioritize employee growth is key—some organizations even offer tuition reimbursement or access to online learning platforms. Some opportunities require some level of seniority or advancement before they are available.

## 3. Access to Experts and Mentors

Working with seasoned professionals or experts in specific fields can significantly enhance your learning curve. Does the organization have a culture of mentorship, or are there experts readily available to consult? For example, in fields like climate research, having access to experienced scientists, special technology/equipment or data analysts could be a valuable asset for project success and personal growth.

## 4. Collaborative and Workspace Resources

Certain workspaces, like labs, co-working spaces, or shared studios, are essential for hands-on work and collaboration. Does the organization offer dedicated spaces for your tasks, such as labs for testing, research rooms, or field access? Remote and hybrid roles may require additional resources, like digital collaboration tools, high-speed internet, and secure data access.

## 5. Research and Funding Opportunities

Particularly in the non-profit and academic sectors, funding for research or project support can be critical. Ask about the organization's approach to funding: do they apply for grants, have endowments, or receive government or private support for specific projects? If funding is a limiting factor, you may have to seek alternative resources to support your work, especially for ambitious projects.

## 6. Fieldwork and Travel Provisions

If your work involves fieldwork, ask about the logistical support for travel and accommodations, particularly if the job requires you to visit remote or

environmental sites. Some organizations provide stipends, travel arrangements, or even specialized vehicles or field kits for on-site work. Field support can vary widely, so knowing what's available can make a difference in your project's success. With very few exceptions, avoid any employer who expects you to make an investment by requiring that you buy their product for resale or require your purchase of a devices to demonstrate their products or services. Such positions are often simply opportunities for your supervisor to make money or to increase the "pyramid" of employees who pay those above them in one manner or another.

7. **Community and Stakeholder Access**
   For roles that involve working with communities or gathering stakeholder input, does the organization provide access to local or industry networks? Some organizations are deeply integrated with communities, making it easier to connect with local leaders, public agencies, or collaborative partners. If outreach is a key part of the role, you'll need these connections to move projects forward.

8. **Introductions** Ask if your boss or colleagues will be introducing you to experts at professional meetings or across the field in your locale. Let them know how you expect learning for professional networking are a highly important investment that to introduce you to a richness of professional skills, knowledge, concepts and techniques.

9. **Work Culture and Support Networks**
   Does the organization foster a supportive, collaborative work culture? Are there formal or informal support networks, like peer groups, interest clubs, or affinity groups that align with your values or interests? These networks can offer guidance and provide insight into how the organization supports its employees beyond basic resources.

By evaluating these aspects, you can see the possibilities within each organization and ensure that you have the resources needed to excel in your role and contribute effectively to your field.

## You Inc.

No matter where you work or how you got the job, remember it's always *You Inc*. You ultimately work for yourself every day. You take home the sense of accomplishment or disappointment each day. Someone else may sign your paycheck or assign tasks, but it's you making the long-term decisions. No one cares as much as you do if you are satisfied on the job. On every job, you work for yourself.

Treat every job as temporary, because you never know when it might end. When you start a job, always begin planning for the next position. You don't have to share that with anyone else, but do it. Companies can go bankrupt, merge, or decide you're expendable at any time. That just happened to 60,000 federal employees this month. The federal US government was always considered the most consistent employer of all!

You might also decide your employer isn't committed enough to support your goals, or they don't provide the resources you need to solve challenges or the assignments they give you. At first, you won't know how long you'll want to stay. Commit to your role, but if things change, be ready to move on. A two-year commitment is often reasonable, but if the employer is unethical, two years is too long! If you see legal or ethical issues, get out quickly! Protect yourself, especially if there's a risk of becoming involved in questionable activities. No one will blame you for running from a bad legal situation, but if you get enmeshed in the legal problems, there may be no good way out.

### Impact: The Power of Your Contribution

How will you manage your impact? How will you evaluate it? Impact isn't just about filling a role—it's about understanding the unique value you bring to solving the world's problems, especially in a field as urgent as climate action. Organizations like Project Drawdown document many climate challenges and their scale of impact in objective carbon terms, but they can't assess what each issue personally means to you. It's that personal issue I keep telling you not to give away, not to anyone else. They won't have your day to day experience no matter how good they think the job is for you!

There may be a prime period in your life when you're ready to give your all to make a difference. At other times, however, you might need to focus more on supporting your family or recovering your health. Life presents constant challenges that don't always align with your intentions—plan ahead for that. What will you do if you need to cut back? Living beyond your income is generally bad planning and leaves you feeling stuck just to pay debts and bills. Get ahead and stay ahead —financially— if you can.

If you need to cut back on work hours or assignments, ask if there is there a lower level of commitment that would still allow you to contribute? Are there opportunities to share work? Take a leave of absence for some time? Work part time for the next three months or indefinitely? Is there a different area where your efforts would have impact and also meet your personal needs if adjustments become necessary?

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## Personal Motivation and Focus

Your personal motivation can shape your focus. For some, climate justice—ensuring that vulnerable communities aren't disproportionately affected by climate change—might feel more urgent than simply reducing global temperatures. If your family, village, or region is facing direct impacts from sea-level rise or recurring wildfires, you may feel compelled to focus your efforts on these specific challenges. Let your experiences guide your impact; personal motivation is a powerful force that drives meaningful work.

The team at 80,000 Hours raises an interesting point: in many cases, someone else could step into your role. Does this mean your impact isn't unique or important? Not at all. Your skills, creativity, and connections influence the way you solve problems, making your contribution distinct. The more specialized you are, the more your impact stands out. Often, the most neglected problems—those with fewer people and resources addressing those problems—offer the greatest opportunities for impact.

When an employer hires you, or when you pitch a project or start a business, your potential impact is often weighed against other options. Even in a competitive environment, it's your unique combination of abilities and insights that makes a

difference. This holds true even if others could technically do your job; right now, you're the one contributing and driving change. Sure, someone might replace you in the future, but that doesn't lessen the value of your work today. In fact, sometimes it takes multiple people to fill the role of a highly effective individual, or the role might disappear if the need changes. The key takeaway? Your contribution matters, regardless of how many others might be capable of stepping in later.

Another essential factor in the motivation-impact equation is your energy and commitment to the role. If you're not motivated in a key position, someone with greater drive and energy might be more effective. If you're feeling burned out or bored, you may not be making the impact others could. It's okay to step aside; perhaps you've played your part and a new opportunity awaits you. Sometimes, contributing means letting others step up if you're not ready or able to give your best effort.

The risk of job burnout is high when stakes are high, and potential outcomes are daunting. As your career progresses, aim to keep your workload as manageable as possible. Taking breaks away from high-stress environments is essential for self-preservation. Early in my career as a psychologist, my supervisor introduced me to the concept of the "empty cup": "If your cup is empty, you have nothing to give. Make sure you fill your cup first." For me, family and nature have always been the way to refill my cup. We took frequent trips and time away to immerse ourselves in nature, both as a family and with friends. I found this time in outdoors a soothing way to reset and return to my work refreshed.

Here's a final question: Could you make an **even greater impact elsewhere**? If you see an opportunity to work with an organization or on a project making substantial progress on climate issues, consider it seriously. Impact is dynamic—it's a choice you can make repeatedly. By staying open to collaborations, consultantships, partnerships, or even changing roles, you can amplify the positive effects of your work.

In some areas where climate is changing the mix of factors a quick response will be much more effective than waiting. A rapid response—applying a climate related fix— could stop or slow a climate problem in a few months what could take years to rectify later if there is no response in the near term. Staying in touch with new

developments in climate effects, social attitudes (think of social licensing which we will revise later) and technological resources could create opportunities for very high impact that appears suddenly.

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## Expertise and Scale

The more expertise you gain, the greater your potential impact. While few of us start as experts, and fewer still become the top authority in the world, you can become a leading expert within your organization or field. That alone can have a significant influence on climate solutions.

Sometimes, the most impact comes when your skills are in high demand but short supply. If you work in a region or on a project where your expertise is rare, your influence multiplies. Higher needs usually translate into higher impact. And in today's world, geography doesn't limit your reach. With remote work options, you can contribute to solving problems globally, even if you're based somewhere far from the action. Your approach to a climate problem may not seem unique to you, but across the world it may be exactly the next step needed and your the person who can deliver or help at a distance to craft a rapid response to the need!

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## Finding Where You Can Make a Difference

Think beyond your immediate surroundings. Look for where the biggest climate challenges are, and ask yourself: what matters most to me? If you're flexible, you may choose to go where the need is greatest, physically or virtually. If geography is a limitation for you, remote work offers the chance to make a meaningful impact no matter where you're based.

At the end of the day, impact is personal. It's tied your motivation, what brings you fulfillment. If your work doesn't offer enough satisfaction, it will leave you drained. I've seen too many people stay in careers that no longer serve them. They become frustrated and disconnected and ultimately burnout and unable to function effectively. Solving climate issues may be a powerful motivator, but it's important to align your work with what brings you joy and purpose.

If you feel stuck with no alternatives, invest time in reconnecting with what you truly love. When you reach the job search section of this book, dive in deeply.

Look at the people you admire and the work they do. What about their situation is appealing? What part of their situation is what you want for yourself? Consider the people you've spent the most time with over your life. Was it by chance, or did you choose them for shared interests and values? Remember, the people aspect of any work environment is powerful. Finding work with people who support and uplift you is a strong indicator of a fulfilling future. It doesn't have to be the same group of people, but perhaps their qualities are essential for you. Even when options seem limited, there are often hidden opportunities that can lead to a more fulfilling, impactful career.

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## Not Ready to Shift Jobs or Careers? Additional Options

If you're not ready to change careers, there are still ways to contribute to climate solutions right where you are. Whether or not your current job directly tackles the issues you care most about, there may be opportunities to make meaningful contributions.

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## Can You Make an Impact at Work?

Even if your job doesn't focus on the climate problems you're passionate about, there are alternative ways to contribute. Many workplaces are not as energy-efficient as they could be. Can you suggest improvements in transportation, heating, cooling, or insulation? These changes not only save money but also set an example for others in your industry—creating a ripple effect that amplifies your impact. As you had a hand in it you could be the ambassador for promoting those changes in your field at large.

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## Employer Funding and Investment

Another hidden avenue for impact lies in your employer's financial decisions. Are they investing profits in banks that support fossil fuel extraction? Are there connections between your company's operations (think about their insurance carrier)  and industries harmful to the environment, like oil transport or coal production? If you're in a position to influence these decisions, you can help steer your employer toward more sustainable options. If not, you can still raise

awareness within your company by reviewing how similar organizations have shifted their investments to support cleaner energy.

## Innovation and Efficiency

Industries everywhere are rethinking the way they operate to drive climate solutions. Medical professionals, for example, are tackling the challenge of reducing waste from single-use items—an essential but complex issue, as these items help prevent disease transmission. Meanwhile, sports leagues might optimize travel schedules to cut down on emissions without disrupting competition. These innovations don't just shrink carbon footprints—they often lead to smarter, more cost-effective ways of doing business. No matter the field, there's an opportunity to improve efficiency while making a positive impact on the climate.

## The Role of Activism as a career

If you're lower on the organizational chart, don't underestimate the power of collective action. At Amazon, for instance, employees came together to push for climate reforms, bringing issues to the forefront and forcing management to take notice and they have negotiated climate policy changes for the better. Activism, even from within a company, can be a powerful tool for change.

## Contributing Outside the Workplace

There are also opportunities to contribute outside of work. Volunteering your time with climate-focused organizations can be just as meaningful as a career shift. Whether it's participating in non-violent protests, helping restore natural habitats, or supporting regenerative farming on weekends, these activities build skills, connections, and knowledge. They can help you grow your career capital and potentially lead to new, climate-focused career opportunities down the line.

Volunteer positions often open pathways to employment with the organization or another closely related. As a volunteer you are in a position to be observed closely and therefore consider for openings that occur or even new positions to be created because of your proven record of free "employment."

## Cautionary Note

Once a job exists and recruitment is in process, employers may not allow employees to talk to potential candidates about the job. This may be a legal position or a policy they must take. That doesn't mean they can't tell you more about their organization or what functions of that office. If this is a new concept to you, ask your contacts what they can share about their employment in the situation where the job is already actively on the market.

Recognize that while a contact may be the hiring person, you can tell them you are applying even if they can't tell you about the position. This can be important in larger organizations as often the pool of candidates is screened in advance for the decision maker. If you application fails to appear, that person can request it since they may be interested in you for your motivation even if your application failed with the screening process. I have had exactly this experience where the Human Relations (HR) office screened out a candidate I knew had applied. Since I was highly interested in that person, I asked HR to forward that application to me.

## Heads and Leaders

If you haven't already, identify the CEOs, department heads and leaders in your target organizations. Find out how you can meet them and ask for their opinion about work in their field. You are still not asking for a job. Your committed research will impress people you meet. Show them you are thorough and willing to pursue leaders for information. That clearly demonstrations your value as a potential employee. Tell people you contact what you learned of value. Use that in a follow up note so they know you are using their opinion and advice with success. Contribute thoughtful ideas and possible solutions in your information gathering conversation to demonstrate your growing understanding of the field, even at the early stages. Become known as a problem solver with at least the beginning expert knowledge and skills for making a contribution in this field. That's what your future employer is looking for.

## Spontaneous Job Offers!

As you meet leaders with hiring power, you may receive a job offer. Long ago, John Crystal—a former spy— became a noted author on career development (*Where do I go from Here with my Life*, 1982, Ten Speed Press), observed, and I've seen and experienced this as well. By demonstrating strong problem-solving skills —researching problems and navigating potential solutions—you'll impress those accustomed to seeking top talent.

What do you do with a spontaneous job offer? First, acknowledge how great it is to have someone recognize your interest in this climate problem and your potential. You might think this is the moment to rip out your resume (we will get to resumes too). Don't do it! Don't even take a resume with you to these information interviews. Try this line, "I didn't come here expecting a job offer! This is exciting about your offer, but I am not done with my research. Thank you for your interest. I came because of my high interest in your valued organization. When I complete my research work I will get back to you."

You are going to modify this to fit the circumstances. Maybe you will want to send a resume, post haste! You will do that much more effectively if you tailor it based on this interview. Any really interested employer is going to respect your interest in finishing your search plan. You should reinforce that idea: "If I decide to follow up with you on a job **you will know when I decide** I will commit 100% to the job because I know I'm in the right place."

# Step 3. How Do You get the Job?

Many people jump into the job search with vague hopes that something interesting "might turn up." This approach is a bit like waiting for a Hollywood-style "meet cute"—relying on chance rather than intention.

You are ready to search with a plan and with purpose. You know the problem you want to tackle, you've identified potential employers, and now you're prepared to take intentional steps toward landing a role that aligns with your goals.

Surprised we've reached the job search phase without much mention of job listings or resumes? That's intentional. The goal has been to focus on more productive activities to deepen your engagement and increase your chances of success, rather than relying solely on mechanics to land a job. While it's true that job listings can be helpful and that a resume will likely play a role, these aren't as central to the process as many job seekers think. I want you to land **a job that fits you** rather than you trying to fit yourself into some job you land because you have mastered the job search skills! This should be a green job that is the logical next step in your climate career.

It's time to introduce the job search skills and the ways to land the position you want. In the sections below, I'll cover how to make the most of job listings and what a well-crafted resume or portfolio should contain to effectively showcase your skills. But remember, these are tools to support your journey—they aren't the journey itself. The reason I am emphasizing this is I've seen job seekers obsess about their resume or their interview skills while wasting time making logical choices about what to do next.

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### Next Step: Where Are the Opportunities?

Now that you've thoroughly researched your target organizations, it's time to focus on the best fits. Narrow down to those that align closely with your goals and the resources needed to address the climate problem you're passionate about. Ask yourself:

- Which organizations are best equipped to support your efforts?

- Does this organization give you the best shot to make a meaningful impact?
- Have you left a positive impression?
- Do they have current openings, or do you believe positions may become available?

# *Before you Start Making Applications, Learn How to Network and Conduct Productive Non-stressful Information Interviews*

## Don't start your career without meeting and interviewing people who are already doing what you want to do.

I am going to make a recommendation that you boldly meet people doing the work you want to do. First of all, find out if you like these people. Satisfaction on the job depends on that factor more than any other. See the location, meet the people and ask questions that will help you decide. You are going to learn how to use your contacts to make a bridge into the world of work by interviewing people who are already at work solving the problems that concern you.

### Networking for opinion, information and pathways to future internships and jobs

People often think of networking as a way to find a job. You should use the resource that way, but first, learn to use networking as a bridge from where you are to understand the options of where you could be working. Its the best tool for exploring career options and the means of entering the field now. This is, of course, the way to find your location, your organization and your people. By connecting with professionals, and engaging in meaningful conversations, you gather the insights needed to understand different fields and how they align with your strengths, interests, and goals. Networking opens doors to shadowing, internships, and real-world experiences that offer a glimpse into various roles, which helps you make well-informed career decisions.

Networking can feel daunting, especially for introverts. The idea of reaching out, asking questions, and sharing your goals might be overwhelming. But think of it not as "selling yourself" but rather as an opportunity to learn from others in a way that benefits both of you. Most people enjoy sharing their experiences and are eager to help others navigate challenges they once faced. It's also their chance to review **what they want now** from their career. You may be doing them a serviceby asking your questions! Your curiosity and genuine interest will often make them feel appreciated, respected, and motivated to support you.
In general, I've found most people are willing to take time to talk to a motivated person about their work. Especially if they like what they do. If your target person won't talk to you, it may be things in their job are not going well and it's too painful to review that. Give up gracefully knowing it's more often about their situation than you.

## The Learning Power of Networking

When you speak with professionals, you'll gain firsthand insights that go beyond what a job description can tell you. Conversations can reveal what a typical day looks like, the skills needed, and the challenges they face in their roles. This understanding can help you decide if a field aligns with your strengths and goals. It's an insight that 80,000Hours.org, a career research organization, found quite valuable for helping people make informed career decisions.

Networking also leads to opportunities to different fields firsthand, through internships, shadowing, or project-based collaborations. These brief information interviews are powerful samples of what you work life can be. Through these experiences, you will discover roles or specializations within a field that you hadn't considered.

## Networking Tips for Introverts seeking information interviews (that work for Extroverts Too!)

Networking may come naturally for extroverts, but for introverts, it can feel like a big task. I saw one of the biggest extrovert in my family stall at the idea of going out to make cold information interview calls. Here are a few tips to make it easier and more rewarding:

1. **Start Small:** Begin with people you're comfortable with—family members, friends, or former colleagues. Let them know you're exploring options and looking for insights. Say at the beginning, "I'm not asking for a job." When you run through those first contacts, expand your reach.A strategy for making your information interviews more comfortable is to **team up with someone** who has similar interests. You will feel the support of your partner and one of you will probably think of something to say if there's an awkward moment.

If you are referred by a friend or family member, ask them if they will make the introduction. In person is really great, but not likely. If they contact your target person in advance you'll know that person is ready to meet you. It's even more important to let your friend or family member know you aren't going to embarrass them by getting to your information interview and then ask for a job! Tell the friend specifically you won't do that!

2. **Ask the people you know** if they have a contact working on the problem you are thinking of. If not, do they know someone who might have a contact that's in the field. I am talking about all the people you know by first name. Let's include relatives and their off spring, and parents. Ask if they know anyone who knows someone who does the work you want to know about. That enlarges the field immensely!

3. **How Big of a list?** As a mild extrovert, I was surprised when I first started listing people I knew by first name, it was over 500 individuals. Your list will vary! Before you eliminate someone from your list, consider how unlikely it is that you know about all their contacts which may include exactly the contact you need. One friend I knew as a counselor had been an inhalation therapist, an auto mechanic and was also highly knowledgeable about exploring wild areas. I knew him because of common wild areas interest. People have more dimensions than you see at first.

4. **Focus on Learning, Not Performing:** Instead of "pitching" yourself, think of each conversation as a chance to listen and learn. When you're focused on understanding their experience, you'll naturally feel less pressured to talk about

yourself. Share something about the problem you are concerned about that you think might be part of your career. Ask if that is something they work on and if so, what is working for them. Ask for opinions they have about their field and then ask if they would enter the same field again.

5. **When you make a cold call** at an office (you can do this), make the gate keeper your ally. Just open the door and go in! Ask the receptionist (gate keeper) who would they talk to in the organization about the field. Ask who is newest at work and would they be most likely to help me understand how to get started. Ask them if the target person is available right now. If not, ask if you can come back at a better time today. Make sure you let the gatekeeper you are not expecting a job today. Stop when you leave and let them know how they helped you. Let them know you are only here (geographically) for a short time.

6. **Cold calling is probably the scariest** way to do info interviews and it's tons of fun because you never know what you're going to find. I've done this by choosing an geographic area that has some organizations I want to meet with so if I don't land an info interview at one, I just move to another target. Consider that you are offering a break in their routine and a fresh perspective on the work they do. They are going to have to think about what's worth doing about their work! It's always good to consider that!

7. **Ask Open-Ended Questions:** To encourage meaningful conversations, ask questions that invite the other person to share. You can tell them you want to take notes. For example here are some sample questions to get you started. Customize your questions to fit your needs and curiosity:1.What do you find most rewarding in your field? 2. What advice would you give someone just starting out? 3. How does your job vary over a year's time? 4. Are there projects that you have to interrupt for some reason during your career? 5. Is my problem (wild fire abatement for example) one you work? 6. Is there some one in your organization who is doing more field research on wild fire? 7. Would you choose this career again today? Or this Job? 8. Where do you think you might go over your career? 9. What was your education that got you this job? 10. Are there other pathways, maybe your fellow workers took? 11. Would you recommend your pathway/ education at this point? 12. What is most challenging about getting your problem solved? 13. Are there other organizations you would recommend for someone to

work on this problem? Write out questions so you have an anchor to start the conversation.

8. **Reframe the Process as Discovery:** Networking isn't about getting something from others; it's about exploring options and gathering insights. Even if it feels uncomfortable, it's worth pushing through for the knowledge you'll gain. It's also much easier to talk when you have a plan to learn about a problem of great interest to you.

For instance:

"I'm interested in roles where I can collect field data and project outcomes over long periods, particularly in urban planning or policy related to climate resilience. I imagine my work might fit with government agencies or corporations focused on sustainable land use."

This sparks creative thinking and may lead them to suggest people or organizations aligned with your interests. They might respond with, "I know someone who works in city planning; I'll introduce you," or even, "Have you thought about working with environmental nonprofits?"

## 9. Give and Take: The Gift of Information

Networking is a two-way process. After meeting someone, follow up to thank them and share any updates about the steps you've taken based on their advice. People love seeing their help was meaningful, and it's a simple way to build rapport. If you come across relevant articles, projects, or insights that might interest them, share them as well. This give-and-take approach nurtures a supportive network and helps you be seen as a proactive and informed problem-solver in the field."

**Action Plan:** Get their contact information so you can reach out again!
By reframing networking as a way to learn and share, you can approach it with a sense of curiosity and purpose rather than obligation or pressure. Networking is a gateway to discovering new fields, gaining valuable knowledge, and building

relationships that support your long-term goals.

**Action Plan:** Send a simple thank you the day after your interview. Let them know what you did with their help: You made these five contacts, you learned about a new field of interest, you found new research on the problem.Some of these people are great mentors, so cultivate them by letting them know you appreciate their help. That's why you contact with a simple written note is all appreciated. "Thanks for your time and your opinions. I've contacted two of the people you suggested and am eager to hear what they have to say."
Do it immediately! If they seem engaged, stay in touch as things happen related to your meeting with them. Perhaps you will want to ask for their opinion as you gather more information.

### 10. One Last Caution

When you conduct informational interviews, your contact may assume you're looking for a job. Be prepared to clarify this way, "For now, I'm focused on gathering information and insights. I don't expect a job offer." If they offer you a job or internship, it's okay to take a step back and express you're flattered but still exploring options to ensure you're on the right path.

Let them know you'll give their offer thoughtful consideration while continuing your research. You could say, "When I am done with my research, if I come back it will because I am committed to working here." This approach keeps the door open for future opportunities while honoring your commitment to finding great fit for your career aspirations. It also reveals your maturity and commitment to your career and likely increases your desirability as a partner in work.

## How do I Turn This into my Climate Career?

Insider information is of no value unless you invest. In this case it's legal! You invest your time by taking insider information to the next level, locating the possible employers. They are in the news, they are in the newsletters and digital

searches you have been following. Ask AI to find the most influential leaders in your proposed field. Keep track of who is emerging with proposals and contracts in the fast moving field. Who has a reputation you like? Keep up with your mentor(s) and contacts discussing what you see. Don't expect them to find everything foryou. You are much more impressive when you show up with the latest information and ask questions based on that.

Take action, even if you're uncertain. Doing nothing leads nowhere, while mistakes are valuable learning experiences that help you improve. Expect to learn from your errors, and keep moving forward!Ask your contacts to name people you can meet. .

Ask for sources of reliable information regarding your chosen problem and where people are sharing information who work on that problem. Learn about associations, conferences, websites, blogs, newsletters, newspaper any source that can help you see how the problem has developed to this point. Pay close attention to the vocabulary being used. Vocabulary is key to start identifying those in the know and you sounding more expert in the field. Read everything, keeping a list of organizations and people's names as you move through your source material. Use those names and organizations in your searches to learn more about their successes, contracts and reputation.If, during this process, you receive invitations to apply or start a role that aligns with your needs and interests, be sure to follow up.

When openings appear that excite you, submit a targeted application. Customize your resume, portfolio and cover letter to highlight the specific skills and experiences that match the position, emphasizing your ability to address their climate-related goals—ideally the same goals you aim to contribute to.
When no immediate openings arise, consider a **proposal approach**.

Leverage the insights you've gained about the organization to craft a proposal that shows how you could help solve their specific challenges. Alternatively, you may feel inspired to start your own operation based on what you've learned. Both options reflect a sophisticated approach that highlights your proactive mindset and problem-solving skills.

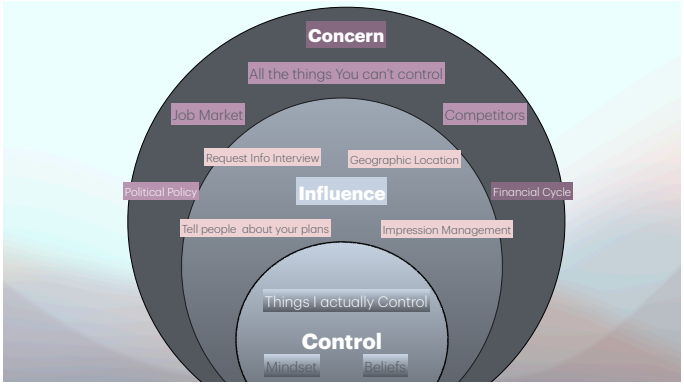
Remember, if you don't land your dream job immediately, *don't give up*. This is a critical moment to stay resilient. Opportunities don't always align perfectly with your schedule, but persistence can make all the difference. Set up a **contingency plan**: maintain regular contact with your best connections and keep an eye on your target organizations. Stay engaged, keep refining your skills, and prepare for the right opportunity when it arrives.

## Strategies for Pursuing a Job When it Takes Longer than Desirable

Whether this your first job out of college or your new green job that you are hoping to land soon, there is always anxiety about the time it is going to take. If you have no job while doing this process, the anxiety goes up.

A good plan can help allay some of the anxiety and provide safe off ramps while you continue to pursue your dream position. I am going to assume you have a well defined target career objective for your next green job. So if you need to do that work first, make sure that goes on your strategy plan first, but we aren't addressing that here.

Next, let's visit the lay of the land. Candy Ho recently presented a nice graphic in the three circles that provide a visual interpretation of how you are starting off. First in her graph is Control. What you control is the smallest piece of the process and it is key. Control fits the job search process very well. These are the things you can change. Internal furniture fits in this circle, your mindset and habits along with your beliefs about the market.




The next larger circle has in it things you might influence, making requests, providing a good presentation of your

abilities, impression management and letting many people know what you want as a career. The circle of Concern, those things you can't control. Here is the worry and anxiety that will distract you and sap your energy to do the things that will increase your influence.

So here's how that works with the concept of job market. The job market waxes and wanes all the time. It not only cycles generally, within industries and geographic areas. So you might think this is entirely a creature that belongs in the Concern circle. It's true  that you have no control over the market or supply of new jobs at the time you are looking for a job. Even so there are some clear and necessary things you control that you should do related to the market.

If the market is at the bottom for your field or your geographic target at the time when you need a job the most important thing you control is your mindset, your belief about this situation.( If the market is at an all time high you wouldn't be reading this section as there would be plenty of positions.) So what is your belief about the poor job market? There's no job for psychologists (that's what I was when last employed) and I won't be able to get a job. Therefore I might as well give up looking. This is a self defeating belief. It's common even when the job market isn't too bad as I have seen often. If you let yourself have this belief, then you are highly unlikely to do the important things you need to do. Now you need to do them even better than usual to have as much influence as possible on getting a position you want.

There's a corollary here that is quite important. You don't need the market to be good. You need one job, not all the jobs. You might not even need one job, but perhaps several part time jobs. My daughter found the last downturn in her field yielded a bonanza because people who needed her skills wanted someone part time (a consultant) rather than having to pay for benefits and recruiting fees and paying someone for a full time permanent job. They could not afford a project based consultant with the smaller amount of money they did have. You may not be ready to hold yourself out as a consultant, but you could find a part time job that fits your target and maybe other part time jobs to pay the rent. They could also be in the target field. This corollary idea could decrease your anxiety about this process if you can see it as a possible alternative in though times in the market.

What else can you control when the market has flat lined? Mostly this control is about creating an increase on your level of influence. Doing nothing is not an option. No one is going to knock on your door the day the hiring freeze is over. In fact, if you do nothing long enough, you will become more unemployable than when you started doing nothing even with an upturn in the job market. So here are some ways to increase your influence:

• Increase your contacts with people in the field. Develop a mentor who takes an interest in you and will offer advice. Keep in touch with your mentor and offer updates on your research of the field, not just your search.

* Find a job coach who keeps asking for specifics about what you did today. Make a pact to share coaching with another job hunter? Doing nothing is not an option.

•Let contacts know very specifically what you are looking for without giving it a title. If you ask to meet people by title, you get a binary answer; they know someone or they don't. If you give them a description, its much more open ended and they might tell you about an option you don't even have words for. Ah, creativity is engendered! Good, maybe the market is different for this newly "heard-of" option?

•Increase the your range of geographic options. Is the market variable? Could you work in a different city, state, country than you were thinking of? Before you run off sending applications everywhere, consider the focused approach. Do your research to see 1. Is this truly a better market? and 2. Can you live there? Your chances are better if you focus your energy on a single geographic area at a time.

•Set limits on how much time you will be able to search for your dream job, There's no use going into debt trying to land the A job. If you can afford to search six months. Then set up your contingency Plan B.

*Give some planning time to Plan B so chance of success implementing it if you need it. Do you have room and board? If this means living with other people, may experience is to have a contribution plan to offer. "I may need

to live with you and I want to share the work at home to help out and I will get a part time job to pay for my food." I will still be looking for work.

•If no Plan A job has occurred after your resources run out, then look at moving to Plan B. Set a time for that to occur and consider the resources it will take to make it happen.

•Evaluate ALL your resources that you might use to earn money. Can you tutor? Can you use a shovel? Can you transport stuff in your vehicle? Can you take pictures of people at tourist spots? Can you free lance writing or reporting?

•Take Plan B or C job and find a place that's near workers who do what you want to do so you can be in touch. A Plan B job in an organization that does the work you want to do is perhaps best. Volunteer to do more of what you like at the job.

•Join the professional associations and volunteer for Plan A work that needs to be done. Newsletter is one of the best as you then are supposed to go interview people to put in the newsletter. And people will get to know you in this position.

•If you are in Plan B more than 6 months, then start looking at how you can create more green options in your work on the job here. How can they use less energy (and save $$) how can they schedule more successfully for fewer trips (and save $$), how can they reach more people with less money. Make proposals that include you doing the work.

What if Plan A job doesn't pay enough?

•It's important to look closely at what you really need and negotiate for more, but have a true bottom line.

•While you are at it, consider, satisfaction does not come from income, money. If your job is awful, more money won't ever make it better. You might tolerate it longer, but $$ won't make you like it. See money as a dis-

satisfier, meaning that if you don't get enough for your basic needs, you will be dissatisfied and more money can take that discomfort away.

•Consider offering to work part time so you are working at what you want and then take a better paying job(s) to support your commitment to a problem you want solved.

•Here's a totally different idea: Dan really like the idea of kids getting a summer outdoor wilderness camp experience. But he didn't want to be a counselor for a summer camp for life. His solution was to make lots of money (he was good at it) and then help fund a camp that met his ideals.

## Working for an Employer

1. Working for an employer gives you access to the tools and resources the employer has. That means you go to work where you will find the space, shelter, materials, funds and opportunities to make your ideas work to solve the problems your employer has chosen (which you also have identified as your own). This is why it is so valuable to search for an employer who needs your skills to solve the same problems you want to solve.
2. Working for an established employer is a quicker way to gain recognition in the marketplace of ideas and solutions. As an individual, it can take much effort and time to establish your brand. When the employer has a brand that is aligned with your objectives you can consider this a short cut.
3. Leaders in organizations have an opportunity to make a broader impact with their career as it touches broader and broader horizons. You can affect more people with your ideas and solutions.

## Working for Yourself (more later under You, Inc.)

Starting your own organization—whether a startup, non-profit, or other venture—gives you the freedom to choose the problems you tackle and decide on your methods. You set the mission, assemble your team, and and determine your target audience. This leaves you in control over the impact you want to make.

However, before launching your own venture, there's significant value in working for others. Working within established organizations with strong reputations allows you to gain essential skills, expand your network, and develop hands-on knowledge. These experiences can provide a foundation that's highly valuable when you later decide to go independent.

That said, some entrepreneurs have taken the leap without prior experience working for others. I know several who started from scratch, unaware of any limitations. One friend shared that he didn't realize a Ph.D. was considered essential in his field—he simply forged ahead and achieved great success without it.

For startups that require substantial resources, securing funding is critical. This means not only obtaining initial capital but also ensuring there's enough to sustain growth until your venture reaches "lift-off." If fundraising or financial management isn't within your skill set or experience, consider finding a partner who excels in these areas. Effective partnerships can be instrumental in turning your vision into a viable, successful enterprise.

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## The Career Journey

You might be thinking that your goal is to find the singular best place to apply your skills or the one perfect field to make an impact. But what if there isn't just one "best" career or location? Later, we'll break down the myth of a single, ideal career path. Instead, you'll see that there are many equally rewarding opportunities, and you might be able to have a similarly powerful impact in multiple areas.

So, what does this mean for your decision? As you explore your options, you don't need to focus on choosing the one "perfect" role. You can thrive in different roles and fields. What matters most is to commit for now. Commit to a strategy and apply your skills, energy, and focus to the position you choose. And continue with openness towards your next role by always looking for your next role.

Remember, commitment doesn't mean forever. Some people even juggle multiple fields at once. The key is to commit deeply to your work for at least two or three years. This gives you enough time to make a difference and evaluate your progress. As you gain experience, you'll uncover new opportunities and you might find yourself ready to move on when another job offers you a better way to make an impact.

In short, career choices aren't one-time decisions. They are part of an evolving journey, where each role helps you grow, learn, and make a difference.

The stakes are high, but so is the need for personal balance. I'll provide mental health tips to help manage the stress that can come with such important work. After all, we can't afford to lose dedicated people to burnout. I've seen talented climate warriors pushed to the brink, unable to continue the fight. That's not the path I want for you. I, selfishly, want your success because when you succeed in this work, we all do and that will make a difference for my family as well as yours.

Instead, let's work to preserve what's best about the world while making the most of your resources to focus on the problems.

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## Job Listings for Climate Careers

This is the highest priority for the largest number of people. Find **THE LIST** of jobs and then send them your application. This is the sum total of job search for many people. It even works! However, it doesn't always yield jobs people really want as they are often back on the market very rapidly. I think this is where the lower third of the employed people got their jobs, just relying on picking from a job list.

You can do better than that. That's what we've been preparing for up to this point in this book. You have followed along and with your due diligence of figuring out what you want and have a good idea of where it exists. People often find jobs mid-process before arriving at this point. They meet people on their information interviews, in their internships, or by keeping it touch and sharing ideas with people who can make a hiring decision. Sometimes those early encounters turn into genuine interest on the part of employers and people are reeled in by those employers. The best managers are always looking and when they see enthusiasm matched with purpose, that's attractive and they start recruiting! I did and so do a lot of other managers.

And if that hasn't already worked, the job listings are another option.

**The advantages:**

1. You will learn who has a current opening and they will provide information about what is needed.

2. The listings might show you something outside the geographic area where you are looking.

The disadvantages;

1. Listings only occur when the job hasn't filled quickly. That means it may be a difficult job to fill and/or few meet the qualifications. OR it means the job is nasty or the location undesirable and few people are willing to do it. The best

reason will be that there is simply more demand for people in this field than there are qualified people. That last one is probably your best sort of real opportunity.

2. Some listings are really cast as a  fishing sortie to see what the market might yield at present and help the employer decide later how to craft the final form of the job with pay and benefits based on the first listing results

3. A few really negative listings are traps to attract people for "positions" that require an investment from the individual in order to get the job. The investment may be for a sample (sizable and expensive) product to sell, or for a training class. Some lists screen these listings out before you might see them.

**Before you Apply for the Job Apply all your work so far on Information Interviews.**

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## Applying for a job

**Applying for a job** may seem like a simple routine to you. Find an attractive job, send in an application (whatever that means to that employer), send them your resume/portfolio/website/samples of work and then wait. If that's all you do, you can do so much better than that!

I would send you back to earlier parts of this book, to research the organization before you apply. Meet people who work there. Find out about the reputation of the employer especially regarding how new hires like you are treated. Learn about the usual steps that are expected for advancement and training. Make sure you understand how they see the climate problems they are working on. Is this a real commitment, or is it based on some short term financial expectation? Take note of all the terms they use to talk about the problems and their technology as well as their approach to solving the problem. But you did all that, right?

Especially as we are talking about climate careers, you want to understand their impact in the field. What do they contribute? How did they achieve that? Did they

innovate or are they following behind the original innovations? How do they compare with other organizations? What resources do they have? Do they have the tools and resources you need? Of course you can wait till your interview to gather this information, BUT you will look so much more competitive if you are asking questions based on your research that has informed you on all the basics. The more you look like a seasoned employee in the field the better you will be received at the time of your interview.

**Proposal:** You are applying for a job that's being offered, and you can still make proposal. Describe how you would approach the work and how you see the problems that are the reason there is a job. Make sure you do enough research so your proposal isn't something they tried and killed last week. It doesn't have to be a proposal to fix everything, but it can be a creative set of insights to consider what you bring to the job. Even if your proposal isn't quite what they want, it's likely to be unique that you prepared at this level and even more likely to impress.

Your proposal can be short and verbal. You can offer some evidence of how you have completed tasks like this in the past. Offer your proposal as an answer to an interview question that's open ended. Write up an outline and submit it with a letter of application. I have used that method for a jobs I was interested in.

While I didn't get the job, one of my proposals got me a call after the job was filled. The person on the committee wanted me to apply for a position I hadn't even heard about!Because of my proposal showed creative solutions and they fit problems in another area at the same organization.

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## Resume/Portfolio:

In your field, research what people are providing in the way of evidence of their education, training and previous work experience. ALWAYS expect it is best to provide a specific resume for each application you make. See this as an opportunity, not as a chore.  Boiler plate resumes (one resume for all jobs you apply for) are such a bad idea. You should use unique terms the employer uses and talk about your best fitting experiences and education for the specific position you apply for. If you see a template for a resume, don't use it for your application. It

might help you think of things you need to include, but the rigid, one-size fits all resume indicates you lack creativity and vibrancy that is so important.

What's first? Think of this as your jewel box for you life experiences. The best jewels belong on the top and they should match up with the needs of the employer. After all, most resume readers are often screeners who are looking for any reason to eliminate you from the pool of candidates, not for reasons to hire you! If that reason is in the top third of your resume, the rest is dust!

If they specify they are hiring people with specific education or certifications, then that should be first on you resume if those are close to your credentials. Maybe what you think is a great item doesn't fit this particular employer, then save it and when you do reveal it couch it in terms that show how that piece of your history will be important to this employer.

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### **Chronological Resume**:

So if you haven't gotten it by now, chronological resumes only serve you if your life is nothing but a crescendo of experience cresting at this moment to make you the best employee for the position. That's not a common experience for any of us. For most, life is more of a scattered field than that. Tell the employer what they want to know most, first and move down through your other accomplishments from there. You need not reveal experiences that show less aptitude.

Throughout your application process, connect your experience with the job you want. Don't assume your employer has already done that. They probably have made those connections or you wouldn't be far along in the selection process, but they want to see you thinking about your approach to their problems. How you use your skills, experience and education to their advantage are especially of interest to a manager looking for a new hire.

There is a daunting part of hiring that you don't see if you haven't been involved in selecting new employees. The first round is winnowing the chaff. They have to find a  way to reduce the candidate pool as they will only want the best few to interview. So, don't include anything that isn't focused on this job, this industry. Everything in your resume should point to why you are really a good choice for this job.

I don’t think a resume every got anyone a job. What it should do is keep you in the running long enough to secure an interview. Your resume has to avoid the round file on the floor after a five second scan. Keep your resume short, make it specific to the job, use the words to describe your experience and skills that the employer uses.

## Job Interview:

My first professional job interviews took place at national conference. A large space with tables and chairs offered for students to meet with employers from across the US. What I quickly learned is I didn't know enough about the employers to be good at interviewing them. I didn't know about their problems or the resources they had for solving them.

I interviewed with a prison system and quickly discovered the problems they had are not ones I felt ready OR interested to work on. I was convinced I didn't want to do the work. A prison psychologist? The sociologist who interviewed me thought I would be right for the position, or maybe he was desperate to find anyone and he started making offers that were enticing.

What could you do better than I did? What would make the interview process more successful. Well, at the same conference, I stopped at an auto dealership in New Orleans where the conference was. I saw a couple of great sports cars and I decided to ask about those. I was worn out trying to interview when I wasn't ready.

I asked the sales guy for details he couldn't provied. That drove him to find his boss. The boss/owner was excited to talk sports cars, especially when he learned what I was driving a muscle car. He took me to his upstairs office and pulled out the automotive blue prints for the next sports cars he was angling to sell at the dealership. Soon he said, "I want to hire you!" He went on to share the short comings of his current sales staff and he said what he liked that I offered—I didn't know I offered— was enthusiasm for the product, knowledge about sports cars and ability to develop a conversation.

Like the prison interview, I was soon being offered additional incentives on top of "I'll pay you twice what they offer at those psychology jobs." He learned I was in town interviewing for my first professional job. He offered a new sports car to drive as a perk, which could be traded any time I liked another better!

This was heady stuff for someone who had just spent the best part of his youth studying to become a psychologist! I told him, I needed to keep following my passion for psychology. It turned out he had recently given up as an MD baby doc. Delivering cars during the day better than babies at midnight!

So why share this with you? When you express your interests and people hear your enthusiasm, you become the person they need if you are willing and able to work on their problems. I knew what his business was. I knew the product and if I hadn't been so fired up for psychology I would have been in the racing business. The problems to be solve in the automotive industry just didn't and still don't interest me. The industry didn't offer an impact I wanted to make. Being a racing champ might feel special, but my reflexes are too slow. Being a super race mechanic or sports car salesman, not so special for me.

When I went to my next interview, I flew across the nation and I was prepared. My major professor, my mentor, told me what to expect. He told me these people were not impressed when I met them in New Orleans at the convention, so I better—and here I interpret him—act like I did at the dealership. I should share my excitement, talk about what I did in my internship that was impressive and make them feel good about working with me. He didn't say it, but it was a pitch to have me sell myself.

When you are ready to make a strong impression, that's when you are ready to interview. First you need to know what the job is, what the problems that you will face. Some problems won't be seen as problems, but framing them that way will help you indicate your value.

Prepare by researching the industry, the profession, the trade so you know what people generally do. Research the specific employers you will be targeting. You need to know their reputation and at least a fundamental idea of the resources they have to bring to bear on the problems. Some of this can be done on line and some you should request as you ask people about the employer.

The law says interviews need to be focused on the work. The reality is, the employer wants to know if you are any fun! Skills are easier to find than people with skills who are a pleasure to work with! This is a circle back to the beginning of this book where I talked about how it's important to like the people you work with. Not just for you to like, but people already in the work, they don't want to hire someone they don't like. As fundamental as that is, it's rarely clarified in the job process. As a manager I found the people who most liked the impact they had and their coworkers were the best and most productive workers. So when hiring, employers are going to be trying to find that sense of mission where they can see you need to be doing this work and doing it with these people. I recently met with a group of former co-workers and employees. I was surprised when they related that they hadn't found the same co-worker camaraderie as we had together. This rare thing of working intensively to make a difference at work is a very special thing. That's on the mind of the people selecting you even though they won't say it, they can't say it.

Everything you did that brings you to the point of interviewing is open to questions during an interview. But, there is only one real question: "Why should I hire you?" No matter what question you get, this is the question behind it. If I ask you to, "Tell me about yourself." You better tell me an answer to the real question, why should I hire you? So you can tell me about your first job mowing lawns for neighbors and then lean into the story how that added up to the present ability to work well with difficult people and finding problems they didn't know they had and then solving them.

As an employer, the one question I never want to hear in an interview is, *"What do you do here?"* That tells me three things: (1) you don't know where you are, (2) you didn't care enough to research my organization in advance, and (3) you have no genuine interest in solving our problems. In all likelihood, you've just ended the interview. Always prepare—because asking *"What do you do here?"* in any form signals that you did little or no homework before walking through the door. Say instead—in your own words—I love what you do here and I want to do this too!

Open strong by sharing why you're excited about this opportunity. Show the interviewer what you discovered in your research that drew you to this organization. Even better—identify a climate problem we're facing that you're eager to help solve. Then, connect the dots: explain how your past experience has

prepared you for this challenge or how you've tackled similar issues before. If you're interviewing for a climate-related role, you've likely been thinking about solutions already—so make that clear. Show the employer that their climate mission aligns with your own and that this job isn't just a step in your career, but a chance to make a real impact.

Job interviews are notoriously unreliable for making good hiring decisions. Decades-old research even suggests that employers make better choices by gathering information and hiring without an interview—yet few managers are willing to take that risk, or what they think is a risk. Why? Because they're accountable for their hires. A bad choice means dealing with an ill-fitting employee or facing the unpleasant task of firing them. Every employer I've talked to believes in their interview process. So recognize it for all the things that are happening. 1. They want to make a good choice that they won't be blamed for. 2. They want some one that will skillfully solve the problems. 3. They want an employee that works well with others and 4. They want to make sure you aren't crazy or abusive or going to make a bad impression at work.

At its core, an interview is often more about reassurance than evaluation. Managers want to feel confident that you're competent, reasonable, and someone they can work with. That means two key things for you: (1) The manager might be just as anxious as you are—their reputation and work environment are also on the line. (2) How you present yourself matters just as much as your actual ability to do the job.

The surprise is that interviews are (also) about finding a reason not to hire you. It's likely the manager or hiring team has selected a group of finalists to interview. First round interviews are especially focused on eliminating people, not making a final decision. The last round will be more about who to actually choose. Let me highly recommend the next pice about IMPACT before you turn away! It's next.

Maybe this is as far as you need to go with this book. What follows is about topics that relate to work and climate issues. You might use this as a reference. If so drop down to the expanded Table of Contents at the end and select topics of interest or those that concern you most. Or you are welcome to keep reading from here!

Then there is the Epilogue at the end which is guidance for making a good impression on your first job. Maybe you will read it because your next job is your first green job!

# II. Climate Career Topics
## 1. How Much Impact will you Have?

Impact is NOT Equal! How much you affect the climate can vary greatly depending on the role you have, the industry you work in and resources available to you. Climate change impacts are not felt equally. Communities in Bangladesh are already battling rising sea levels and intense monsoons, far, very far out of proportion to their contribution to the climate crisis. This is a pattern repeated across the globe, and it highlights an important truth—**where** you choose to work, and **how** you choose to apply your efforts, can make all the difference, in your impact. Solutions for those in dire need will have much greater impact than working in highly developed regions with more resources.

This guide is your starting point. It will provide you with the focus and direction to harness your creativity, turn problems into opportunities, and make a real difference in the world. Most careers are the result of happenstance—people often fall into jobs through connections or take the first position they're offered. The result? Twenty percent of people love what they do and wouldn't trade it for anything, while another twenty percent would rather do anything else. The remaining sixty percent have mediocre results. My goal is to help you land in that first group, where satisfaction fuels your motivation and performance.

As a former Director of Counseling and Career Services at the University of California, Santa Barbara, a counseling psychologist, a mid-life career counselor, and a researcher in vocational psychology, I've spent decades working with people and their careers. When I looked at the enormous challenge of climate change and the resources I've developed over the years, I knew that creating this guide was where I could make my greatest impact. My goal is to use my career capital to help make your career a success in this critical field.

When I was floundering in my own career search back as an undergrad, impact was of little concern and not a concept I paused to consider. Now, I think it is of the utmost importance. You may create an opportunity to make a great difference in dealing with climate change. You could also work the same number of hours with a reasonable satisfying job that has no special value to the climate change issues.

Early in my career I planted thousands of trees and I put out fires, maybe a 100. I did it because it paid money I needed for college. I had no thought for the impact. I knew those planted trees were destined for the sawmill in sixty years, they are ancient now in that planned lifetime so they could have been cut by now. We were simply replacing trees in a clear cut. I had little concept of the transitory habitat for forest wildlife and associated forest plants that would flourish, or not, in the former clear cuts. Now I wonder if those trees have been spared the trip to saw mill as most mills in that area of Oregon have been razed. Or perhaps, being mostly a monoculture crop, disease rampaged through those trees and they are dead snags of different habitat value. Last I saw of them, they were already large, a small forest blending with the surrounding trees.

The fires I helped put out, those were considered to be far more important, at the time. They protected valuable timber for the mills! They stopped fires from decimating ranches and farms, maybe a village. Later I learned I participated in the great fire suppression effort that is now blamed with allowing too much fuel to accumulate over the hundred years of forest policy that called for putting out every last fire. Now, it seems, the mega fires of our time are partly the result of that policy. My impact was much more the reverse of what I imagined at the time!

So by the time the sports car dealer was offering me a job selling his cars, I knew my values were not his. I could probably do a fine job of selling those cars for a short time, but I would have grown weary of the lack of impact. It didn't fit what I thought was worth getting up in the morning! Face the day knowing you have a problem worth solving!

So choose carefully, your efforts, your impact may have unintended consequences! Some, you may have a chance of predicting. I am certain the early timber fellers (my father and his brother fell trees earlier in their working lives) of yesteryear considered they were building America, the houses, shops and factories. The same is true of fossil extraction, it was rightly lauded as fueling the progress of western industry. Now we see it is choking our future.

If you succeed, we all succeed—because the ripple effect of your efforts will touch future generations, including my great-grandkids and yours. We're all connected. I once read that we're all at least 50th cousins with everyone alive today, so let's act together for the future of our global family. The stakes couldn't be higher, The future of the planet is in your hands—and your career can be a powerful tool in shaping a positive livable future, cousin.

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### What impact can you make on Climate Change if you see a path to making money in a neutral field?

This is an interesting idea. Could you have as much or even more impact by dedicating a regular donation from a large income? ProbablyGood.org has explored this idea extensively. You might have gone through the above steps and felt like you don't see a place that fits you very well battling the climate change problems.

How about making a large income and dedicating 10-30% to an effort you have researched that has a strong impact? Possibly your money will have as much or more impact than you would in the field. If you do choose to do this, consider Yvonne Chounaird's model for sourcing materials for his company Patagonia. You have to drill down to learn the truth. You might think your funds are doing one thing and find the words don't mean what you thought. Chounaird found, all organic cotton is not the same, it took going out to the fields and carefully following the supply chain to find the source he could trust to deliver the organic products he trusted and wanted for his brand.

Let's consider how impact might be measured. If you go into a field burgeoning with workers your impact will not rank highly. This is based on the idea that what you do in that field will be done by someone else of equal ability if you don't hold that job. (Hold on to this idea, it's not depressing, just instructive.) So the greater impact will be in fields where you have the ability to stand out and make something happen that others will not. And there is one more factor. If you are able to create a breakthrough it won't really matter how many others are in your field. Of the many medical doctors, only a small select few will have the impact of Jonas Salk with his cure for polio! That impact is hard to predict. It's even harder to find that success!

You might make your way in fields that are not well established, or establish yourself in the part of the world where there is great need on the ground and few people who can make the effort or have the skill. The same effort in the right place could be hundreds of times more impactful.

If you see a path to a large income, think of this in world terms, not just developed nation terms, your regular donation can help fund necessary equipment and hire people to do the work needed. A large income does not have to be of the magnitude you might first think. If you have a college education, see a home in your future or have one now, you are beyond the wealth of 89% of your fellow world citizens. Billionaires are not the only people able to contribute and make a difference.

If you have concerns of being corrupted by the money, there are formal giving schemes that can help you see a path to continuing your efforts. Giving what we can provides guidance on effective charities and strategies for staying on track.

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## What Career is focused on Climate Change?

This will take some research on your part too! Organizations and industries that might not seem to be part of the problem are definitely not part of the solution! Why would banks be implicated in making the climate change problems worse? When they fund fossil fuel projects (which they don't all do) they provide loans to further extraction and to extend pipelines that keep the business as usual going. When insurance companies insure the fossil fuel business they are far from neutral in the theater of climate change.

Years ago, advertising businesses were often compromised by aiding tobacco companies in attracting new, young smokers and other tobacco users. Newspapers are currently supporting greenwashing advertising and sometimes articles for corporations misrepresenting their efforts in climate change mitigation. Some large public relations companies have greenwashed the services and products of companies that are hiding their heavy continuing production of green house gases.

Well how about large scale industrial strength computer services and consulting? That seems rather neutral doesn't it? Well, let's see. I've been reading AI could require more energy than everything else at the rate it's taking off. That may get mitigated by new, less power hungry technology, but it's a concern. Cloud storage

is already a major user of electricity and by the way, taking up significant amounts of real estate with large buildings. Storing at home takes about one millionth as much energy as putting it up in the brick cloud sitting somewhere on the planet! (Yeah! “Cloud” doesn’t mean it’s magically stored in the sky, does it? There’s buildings somewhere, with hardware inside and huge amounts of electric power flowing in there! A great deal of cooling also could mean Cloud and AI tech is using an inordinate amount of the limited fresh water in the world.)

So, to find a neutral work place means do your research before you make your considered donation, and drill down before you take the position. It may not be so easy to find something comfortably neutral, but certainly, you don’t want to contribute to the destruction of the planet while trying to fund improvements! Sisyphus had a better job than that!

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## Working for the Devil

Of course there is another strategy beyond the neutral money making plan. Take a well paying job with one of the problem industries. Make it your plan to gain enough power to direct the finance and operations to neutral or better! Just don’t pick too big of a loser to start with! It’s difficult to turn around a large corporation or non-profit. Systems theory supports the idea that every system is going to self protect and continue as long as possible. The momentum we see today of the fossil fuel industry is a clear indication that they are going to quit what they are doing even though a transition to clean energy would secure their future better than doubling down on squeezing all the profit out of the earth for more coal, more oil, and more natural gas.

At the very least you will learn how the corporations invested in climate changing industries work and what their values are. There are numerous people who have transitioned their excellent career capital and highly paid training from Big Oil and Big Pharma to green purposes. Using that capital the transferring people are creating climate friendly solutions using their background and applying it where it counts most.

I’ll often reference this idea of **"high impact"** throughout the guide. But remember, making a high impact doesn’t mean working yourself to exhaustion.

The climate crisis is a long-term challenge, and we need your efforts for the long haul. Burning out benefits no one. What we need is smart, sustainable work that balances high-impact efforts with protecting your mental health. You can achieve more by making the good choices—choosing the most effective organizations, the right location, and the projects that align with your skills and your motivation.

# 2. Developmental Stages and Your Career Choice

Early in life, many of us think in black and white: things are either right or wrong. It's simple—do the right thing, and life will work out. But as you move forward, you'll find there are more sophisticated ways to approach decisions, especially when choosing a career.

Life presents situations where there are many "right" choices—and just as many, or more, wrong ones. Some of those "right" options may feel better than others, but don't get stuck in pursuit of perfection. It's often better to start with a solid option than wait indefinitely, invest in a good  fallback job learning skills to use while hoping for the perfect career. Remember, this won't be the last career decision you make. Each role will build your skills, expand your network, and increase your career capital.

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### Adapt and Grow

Even if your first choice job turns out to be an awful, it doesn't mean your process was flawed. Your prediction on how a career will turn out might have been spot on at the time, but changes in the law, technology or changes in the rapidly changing climate or other factors could make your initial choice much different from what you expected. There are always more things happening that you can predict. It will be important to make a commitment and be ready for changes.

Remember that walking means taking a risk, every step puts you off balance and each step is part of your forward motion. It's right foot, left foot, not right foot, wrong foot. The same is true of jobs, most jobs will be a position, like putting

down your foot. Most the time, even if you don't like what you are doing, or the people you are with, there are opportunities. Make it a left foot job, not a wrong foot job. Then get ready to transition to your next job.

After you are in the career you chose, look around and see where there are yet better choices. Maybe your criteria will change or something will happen that makes you reconsider. The world is changing and you will be too. It's therefore useful to expect you will want to make adjustments no matter how hard you worked to find your current position. The important thing is to remain flexible and open to making adjustments. Hard work getting the position is an investment that pays off after that job. Waiting for happenstance to deliver the job you want is very similar to expecting the lottery to pay off. It will, for someone, but not very often for the rest of us. Start making your way to the green job you want.

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## Embrace Flexibility

It's possible to find fulfillment in different organizations or even in entirely different career fields. You are multifaceted, and the drive to make a meaningful impact can lead you in unexpected directions. What matters most is that your work aligns with your values, ethics and offers you the chance to contribute to something important—like solving climate challenges.

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## Make a commitment

I've seen people paralyzed by indecision, afraid of making the wrong choice. But sometimes, the best move is to choose a direction, commit to it for a couple of years, and see how it plays out. During this time, focus on your original goals: making an impact, working with good people you like, and ensuring your ethics align with your work. Reality at work is the difference between a happy beginning illusion and the disillusionment of the unexpected way things are. Maybe the job does not align with your expectations, or maybe your priorities have shifted. The co-workers you have may be inflexible and unwilling to change. Or perhaps, the expectations of the industry are molded by new laws or have been revised by a new administrator. It's a learning experience that will help you make a more informed decision the next time around.

Even when your choice of work has turned out disastrously, stop and evaluate how you got to this point. It can be you made a very good choice, but were unable to gather the information that would have informed you of this outcome. Or, it's possible that changes have come along that were not predictable and not something you could have seen regardless of the data you gathered.

The PR firm that was succeeding with wind energy and solar installations on a large scale turned upside down in a short period when the principal owner made devastating decisions and turned to porn and other nefarious markets to make up the difference. The department head became concerned for legal entanglement in the tasks required and made careful documentation of what decisions were made and staying clear of all that looked illegal. At the same time, this person headed for the door to find better employment immediately. These bizarre things do happen and it's one of the reasons to always be considering your next move!

There have been changes in the park service where people who intended to mostly provide interpretive nature information are required to carry a firearm and to enforce the law in the woods. That sort of turnabout might be completely anathema to the choice of joining the park service in the first place. What next? If you are staying current with yourself on what you might consider next then you are more ready than not to meet the challenge of finding another position.

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## Case Study: Career Choice, Commitment, and Adapting to Change

Mallory's career journey didn't go as planned, but her ability to adapt kept her moving forward. After graduating with a degree in mechanical engineering—a field that was booming when she started her studies—Mallory found herself facing a different reality upon graduation. The economy had shifted, and the job market was far more competitive than she had anticipated. Employers had let engineers go in industries she hoped to join. She wondered if she had made a bad choice. The answer? No. The world had changed in ways she couldn't foresee.

A sociologist made Mallory's plight a case for his argument that careers are all about happenstance. He said you can't plan for your career as so many random things happen that are out of your control. I think her story is one that says be ready to make the most of the control you do have. Luck is what happens when preparation meets opportunity: Vince Lombardi. Mallory was on the way to create her own good "luck."

Determined to find a way forward, Mallory broadened her search and found a position in a developing nation, building bridges to help bring food to market. It seemed like a step in the right direction. But after a few months on the job, she uncovered a harsh reality: many of the goods traveling across her bridges were not food, but illegally harvested exotic hardwoods from protected lands.

This wasn't the outcome she had envisioned. Instead of helping people, her work was unintentionally supporting an exploitative industry dependent on tree poachers. Armed with this new understanding, she chose to leave her position, but not without taking valuable lessons with her. She had made contacts in the engineering world and learned about unintended consequences. Her next move would be more deliberate.

Mallory shifted her focus to climate change and renewable energy, making it clear to her network of contacts that she was committed to solving energy problems. She wanted to be sure her next job would directly contribute to replacing fossil fuels—not powering harmful activities like bitcoin mining. When no immediate opportunities arose, she made the difficult decision to leave her current job due to the ethical conflict it posed. She knew tree poaching needed to be stopped, but that wasn't her focus, so she set her sights on something that aligned with her values: renewable energy.

Her research led her to the idea of deep geothermal wells—sustainable energy with the potential to replace fossil fuels. She began networking and applied for jobs in this field. By the time she left the bridge-building job, no offer had materialized, but she remained determined. She relocated near research facilities of interest to her, took a job at a local coffee shop, and used the opportunity to meet people in the industry. Mallory didn't see this as a step backward; she saw it as a strategic move. Over time she made professional contacts and found positions to apply for.

Now working on cutting-edge solutions, Mallory remains open to future opportunities. She's committed to the engineering job at hand, but not locked into the idea that it will be her last stop. The research could succeed or fail, but either way, Mallory knows she's building valuable experience and staying ready for the next chapter.

Commitment to your work is essential, even when it doesn't directly align with your long-term goals. Mallory, for example, kept her eye on her career path, even while working as a barista. Life requires a balance between staying committed to the task at hand and recognizing when a job might not provide the desired direction. In today's volatile job market, this adaptability is crucial.

Without commitment, we are tentative and not engaging all our faculties to the project at hand. Life is full of contradictions where you are required to balance to make the most of it. I've talked above about always being aware the job you have could fail to provide the path you want to follow. Of course that's still my position and while you hold that idea, you will need to commit with the maturity to know this time in the world is unstable in so many ways and that includes the market you work in.

In the past you might have worked at the same work your parents did and that might have been very gender specific. Boys often took up the family farm or ranch. Agriculture dominated much of the work until a few generations ago. Girls had even more limited range of opportunity. Even as briefly as two generations, it was not uncommon for people to settle into a job with one employer and to retire from that same job three decades or more later. Now that has accelerated to the point where the common path includes job moves every four years on average for much of one's career.

When things are uncertain, uncomfortable and we have fear, we tend to regress to earlier stages of development. It's natural and it's protective. That's true of our work life and that has a large bearing on your financial security. Politicians capitalize on this knowledge and load their messages with fear hoping to destabilize your level of decision making to a more primitive style, the more primitive level of your development. When we are afraid we are more ready to look for simple solutions and to turn more readily toward authority.

Therefore, the idea is to keep in mind that you are choosing to work, for now, on a problem you have chosen where you believe you will have an impact at a level that allows you to use the skills you enjoy and you have developed, through your education, training and experience. It's enough to know, that for now, this is a good place for you to make a contribution. You will also recognize that you will have future opportunity to build new skills and competencies when you commit and you will impress people with your work and your outcome. Because of this you are going to learn of new opportunities for projects and organizations where you might turn your attention to next. Commit to what you're doing now, knowing it builds skills and connections that open doors to future opportunities.

When you recognize your thinking has reverted to black and white as the only options, know that to be a warning sign you are experiencing pressure and stress. You may be threatened or feeling threatened in ways you didn't expect. Having trusted mentors, family and friends can help you rebalance and look at the shades of gray in the situation. Do you have to produce an expected outcome for a certain deadline? What are the options? Is there an alternative outcome that could be more valued? If your job looks dead end, does that mean you have only the option to quit? What else is possible? How soon do you need a change to happen?

# 3. Your Mental Health and Your Career

As you embark on your career in climate work, seek out relevant professional associations. Who else is doing what you're doing? What groups do they belong to? If you don't find one that meets your needs, consider starting a new association. These connections can provide both professional guidance and vital mental health support as you navigate the challenges of your new career. Think of this as building social capital among those who are tackling this difficult problem. For some of you this could be a career in itself.

Today, there's less organic social support in many aspects of American life, making professional networks even more essential. In climate work, you're part of a community striving for change. This means reaching out to coworkers, offering support to others, and taking care of yourself along the way. The field can be challenging, with some people misunderstanding or even opposing your efforts. Building a network to share ideas and create strategies for resilience is crucial. Connecting with like-minded individuals to help bear the everyday burdens can make a big difference. Connecting with the community where you live is another valuable contribution you can make which pays dividends with more social connections in your life. Later we will cover volunteer opportunities.

If the climate crisis feels overwhelming, remember to take steps to manage stress and keep moving forward. It's easy to feel paralyzed by the magnitude of the issue, but avoiding action won't help. Sometimes, it takes actively working through these concerns to overcome paralysis—whether it's procrastination or genuine anxiety.

If these challenges begin to impact your mental health, don't hesitate to seek support. Anxiety, depression, or stress related to climate work are common and can be managed with the help of a mental health professional. Therapists, psychologists, psychiatrists, and clinical social workers can provide tools and therapy to help you cope. Some professionals specialize in addressing eco-anxiety and other climate-related issues. Taking care of your mental well-being enables you to continue contributing to the vital work of addressing climate change.

# 4. On the Job Issues

First, remember that you don’t have to save the world by yourself. No single person can solve climate change. Instead, focus on where your efforts can make a difference as part of the larger solution. When many of us act together, we can generate a powerful impact.

As you begin, keep networking and ask others in the field about their professional growth or self-education paths. Initiate your own projects to deepen your knowledge, and seek out opportunities where reputable professionals are addressing the challenges you’re passionate about. Track potential employers and business opportunities that align with your goals for the future.

Take action, even if you’re uncertain. Doing nothing leads nowhere, while mistakes are valuable learning experiences that help you improve. Expect to learn from your errors, and keep moving forward!

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### Re-framing the past

The climate crisis has already taken a significant toll, and more will be lost before we begin to see a slowdown. Even small increases—just tenths of a degree in global temperature—will make a difference, leading to ongoing harm to our climate, wildlife habitats, and people's homes and livelihoods. But don’t measure your success by these losses alone. You are part of a long-term mission to reduce the pace of deterioration, with the goal of eventually reversing it, the drawdown point. Your work aims to lower atmospheric carbon, draw down temperatures, and create solutions that can support a sustainable society.

It’s not helpful to make climate change your personal catastrophe. Instead, focus on mobilizing for the future. Holding on to losses only intensifies the pain, while each day presents new opportunities and challenges to tackle. Learn from the past, but avoid emotional paralysis, as it only leads to further setbacks. If you haven’t read it, *All We Can Save,* edited by Ayana Elizabeth Johnson and Katharine K. Wilkinson, is a thoughtful collection of essays that provides perspective and inspiration for this journey.

### Limiting Contacts

If certain associates are consistently bringing you down, set boundaries on the time and energy you invest in them—regardless of who they are. When they're in this negative mode, they're effectively working against you. Prepare for interactions by steering conversations to focus on solutions and by encouraging them to leverage their strengths to support those solutions. Learn to guide discussions toward productive outcomes.

If these people are part of your work environment and you see no quick improvement, it may be time to consider a new setting, a new organization even a different career path. Attempting to change a work culture **and** make strides on critical climate issues is often too much for one person. That negativity can undermine your ability to maximize your resources. Instead, seek out coworkers or environments where others share your drive and are actively making progress on the issues you care about. Observe the resources and strategies that enable their success, and use this insight to align your own path forward.

# 5. All We Can Work on

I was impressed by the book, *All We Can Save* mentioned above. The articles in the book focus on what is needed next to make our world the best we can. Now is the time to start your work, our work on all we can work on. You should find the most important work needed to save the best of this earth. Our planet is magnificent and it is worth the effort! If you need help with guidance on what to choose that is worth doing, use *All We Can Save* and *Project Drawdown* for creative ideas and summaries. Here—https://drawdown.org/insights?page=1-- are a series of people in climate efforts that PD has profiled.

In the case of Project Drawdown, they have provided objective evidence and data to support their conclusions about what can be achieved in a wide range of interventions. This is where you gain insight into the magnitude of impact that can be had in the field you chose. We can work on the most important things to leverage the best outcome. Wasting more time on dead end, low impact jobs, no matter how much they pay is a waste of the future. And sometimes that is exactly

what we have to do to live and pay the bills. At that point work of any kind is important and so is the search for the next thing.

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## Criteria Reality

There's a lot of alarming language suggesting that crossing certain climate thresholds means all is lost—but that's just not true. Every fraction of a degree we prevent from warming matters. Every species saved makes a difference. While exceeding certain markers for temperature and $CO_2$ has effects, letting things spiral further is far worse. Don't let these thresholds paralyze you; they are points for action, not despair.

In the bigger picture, while making an impact is vital, maintaining balance is essential for lasting effectiveness. We all have limits. Constantly pushing yourself beyond them has consequences, and sustained overextension risks serious impacts on mental and physical health. Freud had his flaws, but he was right about the importance of love and work in creating a meaningful life. This balance—of work, friends, family, and personal connection—requires our respect, including self-respect and respect for our boundaries. As I've said, you need to fill your own cup to give fully to others. That includes carving out time to step back from the intense pressures of high-impact work, and supporting those around you to find their balance as well.

"Catching" others is a concept I learned from Jon Young in *Coyote's Guide* and his workshops and conversations. As a psychologist, I recognized this as empathy, but what Jon added was instruction. Helping to guide what they attend to in their environment is the next step after sincere listening. It means listening deeply to what people share about their learning and their experiences. This isn't just for therapists, its for all our important relationships. Catch the one your with and you might learn more about yourself and your world!

Empathy involves recognizing and holding another's emotions, then gently guiding them toward their next step, perhaps opening them to new learning or perspective. Sometimes, "catching" can spark a creative solution, a deeper connection, or reveal an overlooked contribution. Sometimes it is just listening, being someone who

cares enough to do that. Working without recognition or understanding is tough, and burnout often follows. You might be a better “catcher” than you realized—embrace that skill and support both yourself and others in the journey forward.

For yourself, you may have to tell someone, just listen! To me, I need to say things and be heard! You may need to be “caught” and not told how to solve a problem or how to re-imagine your approach. You can teach others what you need and when you need it. If they don’t get it, keep looking, there are other catchers out there!

# 6. No More Waiting

If you have stopped in your tracks at working on your career, more waiting is not the answer! Resolve to do something even if it isn’t your whole move at once. If you find more time slips by, you may well benefit from some professional help. More waiting is not helping. Take the initiative now. The beginning of the rest of your life? That is a cliche, but use something to lean into your resolve and make things happen today! Start with information interviews, volunteer to try out the work, keep looking at successful organizations and researching where the successes are happening.

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### Future Arc of Your Career

You won’t likely start at the top of your next career, up there at the arc. Look for something worthwhile you can imagine you can do. For challenge you might think of your next assignment, your next job and how it should require one third new things you don’t know how to do. You will benefit from the stretch into your future arc! If you already know everything for that job then it better be one that has more resources, more opportunities to the high impact things you have in mind.

If your desired future position is a very far reach, develop your steps to get there. Ask people doing the work how to get to that level. Find a mentor who can help you understand what’s required of you. Just because you can’t step from today into that job, don’t let that slow you from setting your plan in action. Learning about the scope of your field will help to get to the position you want. It will let you know where the resources are and how the politics are played. Reduce the crazy and forge ahead despite what’s lost. We all need to carry on for the future of our

loved ones and for all our fellow animal and plant travelers on this planet who don't have a vote, or say how it unfurls for them.

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### Be Good to Yourself!

Recognize your process will be uneven. Find people who will support what you are doing and those who will let catch you. Share your good days with them and the ones where you lose traction. Plan to start again and again and again. If you have been stuck, every little forward movement is worth celebrating in a small way. I heard Dr. Hall, an anthropologist say, "There are so many ways to fail in life, we really need to celebrate every success." You don't even have to tell anyone you are celebrating if you don't want to!

Climate is a problem where all can contribute! There are so many ways to throw your hat in the ring and make a difference. Start today, and then again tomorrow and the day after. Thank you for your effort!

# 7. Mental Health for the Climate Worker

I first wrote this in 2021 when the Covid pandemic was still throwing our human lives into more chaos than is good for us: Perhaps attending to your mental health is more important this year than most with the whiplash effect of Covid-19 social distancing, hunkering in place, quarantining, and eating outside in the wind with a mask etc. etc. It's come, it's gone and it's back again 70% more transmissible and more teeth! Seriously, whether you are surviving Covid-19 with a little humor depends on how much tragedy you suffered and this has been more than tragic for some individuals and families. Better mental health means taking a break outdoors! The research evidence is very strong on this (*Nature Fix)*!

With the climate crisis, the weight of the issues is strangely familiar while being way different from Covid-19. Even for the most avid climate worker, you have to wonder about stuff like that 360 spin you did on the freeway. Was that climate change or was it that you didn't change to winter tires in time this year? Was that wildfire normal or would it burn that town down without the climate crisis? That's twisting our mental health as well as our fears and depression of the future.

## Make Time for Nature

Clearly our mental health is riding the indoor mechanical bull without enough outdoor nature. Ed Abbey (Desert Solitaire) recommended, when he was fighting the good fight for wilderness and wild rivers and lovely desert solitude, that you really have to take time for yourself, or it will drive you nuts. That's a professional analysis from your psychologist. If you haven't read Abbey's book, it is a temporary relief until you can develop better mental health taking a break outdoors!!

Do that! Take time and go outdoors. This perfect planet still has special places to put you off the crazy wheel and provide a distraction from climate horrors and bad politics. You could step outside your car and into the food chain, as they famously say, in Alaska. That should put your head in the survival game and see a little more perspective on climate crisis issues.

## Outdoors, the Priority is Immediate

Ten yards into the damp woods of Oregon you could find enough mosquitoes in the right month, to drive away any worries you have about the climate crisis! Follow that with enough itching to keep you busy for another couple of days if you really pursued that hike like you truly deserve! Or possibly, you could accidentally step between a mother bobcat and her pair of darling little cubs as they tumble across the trail in front of you! While you turn to enjoy their antics you could miss the snarl before mother bobcat turns your fancy pants into ribbons and your legs to shreds. If you're lucky you'll walk away under your own power as bobcats are too small to make you the evening meal.

Personally, I've been very lucky. Oh, I had my hair combed by a bear while sleeping. I didn't quite make it to the river with my left knee during that my fabled dive into the Big Sur River. But mostly it's been the best times of my life out enjoying nature with family and friends. Besides yelling, "yo bear!" to make sure the grizzlies knew where I was, I enjoyed seeing the greatest scenery in the world in the Alaskan Brooks Range. I've walked through the fog where we were so close

to the magnetic north that all three of our compasses pointed different directions but we still managed to find camp. Nothing like a small emergency to improve mental health on your break outdoors!

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## Your Best and Worst Times Ground Your Mental Health

While I am regaling you with my idea of memorable nature experiences, I am sure you are recalling your own best and worst times. Whether it was fishing in a quiet pond, trudging through a blizzard or watching a lightening storm over the breaks of Canyon de Chelly, I imagine it had a way of keeping your attention on the here and now more than tilting the windmills of the climate crisis did. I've seen and I've read about people who had their balance knocked akimbo by the massiveness of the climate problems we are facing. There's no reason this shouldn't depress us one moment and scare us the next. It just isn't helpful to be knocked flat by depression, anxiety or anger. If you are too tired to focus on the big picture and look for the best solution, you won't be able to help.

Years ago I got away from my work long enough so I suddenly knew I had stayed too long! The job was so consuming so much of the moment, every moment, that I couldn't see I needed to quit. Probably that's not going to be your solution, but I share it so you know we need perspective when we can't see beyond our current definition of crisis.

I came to believe the best time to plan your next career move is just after you made your most recent move. No job is permanent. If you aspire to working for yourself, start thinking about making a job and not just taking what comes along.

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## Loving the Planet and Making Your Best Effort

I suspect if you are in this climate fight, the reason has something to do with loving the earth, our planet. Therefore, I think you owe it to yourself to go see what is worth saving from time to time. Renew your faith that this is the important job you need to be doing. If you realize you are in the wrong job or field, quit, find something better, more effective as a contribution. Get out and enjoy yourself and

let your climate solutions crawl back on their own with new voices, new perspective and ideas that weren't there before you let go while you worried about falling in the creek, or how you were going to get home before dark. After you get back to your work, you may reflect on your transferable skills and "cross training" inherent in enjoying the great outdoors.

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### Professional Help

We need you to be your best! Finally, if you need more help, get it. Look for a mental health professional in psychology, social work, psychiatry, or marriage and family therapy. Some specialize in treating anxiety and depression related to environmental issues. Just remember, better mental health means taking a break outdoors!

# 8. What Needs Fixing, Project Drawdown Sectors

Project Drawdown provides a valuable resource for understanding which actions can have the greatest impact on reducing atmospheric carbon. Their research categorizes the biggest contributors to climate change and evaluates potential solutions, ranking them by their CO2 equivalent reductions in gigatons. For career seekers aiming to align their work with meaningful climate impact, this tool is a goldmine. It allows you to explore areas of interest or concern, align them with your skills and values, and assess their actual weight in combating climate change.

You might find some surprises in their rankings. For instance, did you know that the single most impactful action they discovered is reducing food waste? It far surpasses many of the high-tech solutions often spotlighted in the media. Personally, I was astonished. My own assumptions about carbon sources were shaped more by my experiences than by direct research. Project Drawdown offers a clearer lens to see where your career could make the most significant difference.

To put it in perspective: reducing food waste has the potential to cut 88 to 102 gigatons of CO2 equivalents, while the much-publicized switch to electric vehicles (EVs) accounts for just 7.7 to 9.8 gigatons. And if I considered starting a niche career, like creating electric hotrods, the contribution would be an even smaller fraction of the EV total—likely less than 1%. Patagonia said in a recent ad, you only need a new coat once every three to five years, but you eat every day, if your lucky, three meals a day. Its a way of saying food and food wasted decisions have more import than clothing or cars or lots of other things we get exercised about.

That's not to say these efforts are unimportant, but it highlights the importance of looking at the data before committing to a path. Project Drawdown's methodology is transparent and thorough, enabling you to dive deep into how they arrived at their conclusions. You're welcome to challenge their findings, but these numbers provide a solid foundation for making informed decisions.

For instance, if your passion lies in the auto industry, you might initially think creating electric hotrods is a game-changer. However, with the numbers in hand, you might realize that while it could raise awareness or contribute in niche ways, the overall impact might be marginal compared to other fields like addressing food waste or renewable energy. I still want to see electric hotrods, its just a thing.

This isn't about dampening enthusiasm—it's about channeling it effectively. Use resources like Project Drawdown to refine your career focus. Find a balance between your personal interests and where you can have the greatest impact. If you still feel strongly about a less impactful area, it could become a personal hobby or a smaller piece of a larger puzzle. Maybe an EV hotrod could be a meaningful hobby?

Before moving too far down any path, take the time to study the big picture. Climate change is a extremely complex problem, and the solutions are as diverse

as the skills and interests of the people working on them. Let data, not just emotion, guide your choices. This way, your efforts can align with what truly needs fixing, and your career can contribute meaningfully to the fight against climate change.

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## Project Drawdown Career Profiles

Project Drawdown (PD) has profiled a group of successful people in powerful roles addressing climate change issues in their careers. You may find one or more of these stories resonates for you! This is an inside track without having to go out to interview! These folks are from several international sites, so they might be hard to travel around for information interviews to gain this kind of insight.

The only drawback is you have no social contact with the person. What you will miss is asking questions of your own and having a contact person to reach back to or who could become a mentor for you. What I want most to emphasize, is the PD profiles are great as an introduction to what awaits you when you reach out and start talking to people doing what you want! Don't miss the real thing! Here's the link:  https://drawdown.org/insights?page=1

# 9. Evaluate and Prioritize the Climate Problems

## Use Project Drawdown (PD) as Your Guide and a deeper dive

Project Drawdown (PD) offers a valuable framework for identifying and prioritizing solutions to climate problems. It can help you quickly assess potential solutions or determine how a problem you're considering fits into the landscape of high-impact climate actions. PD's central message is that the technology to address climate change already exists. The challenge is scaling these solutions now—delaying action will only make solving these problems more difficult and costly.

## Starting with Impact

**In this section we are going to take a deep dive into the problem of food waste as it relates to climate change. Use this material to see how to analyze what's worth doing and consider how a problem you may see described infrequently could be worth your time as a contributor to climate change results. If your goal is to tackle the problem with the greatest impact, choose to focus on the biggest contributors to climate change.**

According to PD, reducing food waste offers one of the most significant opportunities to achieve climate drawdown, with a potential reduction of **88 gigatons of carbon emissions**. Clearly, this is a monumental opportunity to change the course of the future. Food waste emissions are one part of that fossil fuel and fossil fertilizer sectors that contribute so highly to the problem.

Just to be clear you understand, the evidence is strong that climate change is due to burning fossil fuels. Food waste plays a significant role as a large component of that fossil fuel use. Food waste emissions arise from the energy used in food production, most of which depends on fossil fuels and fertilizers, as well as from methane released during decomposition. Agriculture impact is compounded by the loss of carbon-capturing forests cleared for crops and food animals and additional emissions from livestock. Addressing food waste is therefore an important piece of the climate puzzle, alongside reducing fossil fuel use

Addressing food waste involves more than understanding its significance—it requires seeing the scope of this extremely large problem, where it's most severe, and how it became such a major contributor to climate change. To act effectively, you'll need to identify the leaders already tackling the issue, understand their strategies, and explore how their work is funded. Large problems like this often involve complex financial pathways. It's also important to ask: who benefits from solving the problem? And who might resist, given the potential for power shifts and financial loss?

So we have begun to define a problem to research. Hearing about food waste will bring some career  ideas to mind. Below is a quick summary of the sources of carbon emissions related to food waste, the percentages of contribution and the carbon related to each one.

Food waste, if it were a country, would be third after the USA and China as a producer of carbon emissions. Green House Gas (GHG) emitted related to food waste comes from fossil fuel used to plant, fertilize, harvest and transport food that is never consumed. Some of it comes from the rotting process--methane mostly--of the excess food and by products. Some is from storage and the emissions from various fossil fuels supplying energy for running refrigeration units, some emission of GHG are leaking from old refrigerant. Old refrigerant is still an issue contributing disproportionate amounts of GHG. The energy embedded in water used for irrigation contributes indirectly to emissions. For instance, the pumping and treatment of water rely mostly on fossil fuels.

In addition, some carbon related factors are far from the store where people shop or the table where we eat. Wasted food contributes to deforestation and land-use as more land is put into agriculture than is really needed to produce wasted food. This

releases carbon stored in trees and soil, adding to GHG emissions. Processing and packaging food requires additional energy and materials. Packaging materials (especially plastics made from oil) contribute to emissions both during production and disposal. Restaurants and food service establishments often discard large amounts of food. Energy used for cooking, heating, or cooling food that is never eaten adds to the carbon footprint.

And finally, there is uneaten meat and dairy products that are especially impactful because livestock production has a high carbon footprint due to methane emissions from digestion and manure. Ultimately a large amount of the contribution of food waste to the total carbon burden is related to fossil fuels used in agriculture and its subsequent ties to markets through transportation, refrigeration, packaging and road maintenance for market roads.

Here is an outline to begin your understanding of some options:

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## 1. Overproduction and Inefficient Supply Chains

- **Estimated Food Waste Contribution to carbon burden:** Approximately 10-15% of the food waste total
- **Sub-problems:**
    - Excess food produced that cannot be consumed.
    - Poor forecasting of consumer demand.
    - Lack of infrastructure for efficient transportation and storage.
- **Careers:**
    - **Supply Chain Analysts/Managers:** Optimize production and distribution processes.
    - **Data Scientists:** Develop predictive models for food demand.

    - **Agricultural Economists:** Study and improve efficiency in food production.
    - **Transportation and Logistics Specialists:** Ensure timely delivery of food.
    - **Market Road construction:** Make road time from field to market shorter in time with better roads.
    - **Mobile Refrigeration Specialists:** Providing more refrigeration to stop spoilage before food gets to markets.
- **Source:** The Food and Agriculture Organization (FAO) reports that globally, about 14% of food is lost between harvest and retail, indicating significant inefficiencies in supply chains. Wikipedia
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## 2. Post-Harvest Food Losses

- **Estimated Contribution:** Around 20-25%
    - Details: These losses occur during harvesting, handling, storage and transportation in regions lacking adequate infrastructure.
- **Sub-problems:**
    - Improper storage leading to spoilage.
    - Damage during transport.
    - Lack of refrigeration in rural areas.
- **Careers:**
    - **Agricultural Engineers:** Design better storage and transport technologies as well as more energy efficient sowing, weeding and harvesting technology

    - **Cold Chain Specialists:** Develop and manage refrigeration systems and upgrade to new, less damaging refrigerants.
    - **Quality Assurance Professionals:** Monitor food quality during transit.
    - **Refrigeration Specialists:** Apply all the available techniques at every level of food storage.
    - **Refrigeration Researchers:** Develop better and cheaper ways of keeping food fresh.

- **Source:** The FAO's "The State of Food and Agriculture 2019" indicates that approximately 14% of the world's food is lost from production before reaching the retail level. Wikipedia

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## 3. Consumer-Level Food Waste

- **Estimated Contribution:** Approximately 30-35%
- **Details:** Significant waste occurs at the household level due to over-purchasing, improper storage, and misunderstanding of expiration labels.
- **Sub-problems:**
    - Over-purchasing and lack of meal planning.
    - Misunderstanding of "sell-by" and "use-by" dates.
    - Poor handling or storage of food at home.
- **Careers:**
    - **Dietitians/Nutritionists:** Educate consumers on meal planning and food storage.

    - **Behavioral Scientists:** Study consumer habits to reduce waste.
    - **Marketing Specialists:** Promote waste-reducing products and practices.
- **Source:** The United Nations Environment Programme (UNEP) estimates that 61% of food waste comes from households. United Nations Environment Programme

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## 4. Food Waste in Restaurants and Retail

- **Estimated Contribution:** About 15-20%
- **Details:** Waste in this sector arises from over-preparation, large portion sizes, and unsold inventory.
- **Sub-problems:**
    - Over-preparation of meals.
    - Disposal of unsold food.
    - Lack of donation systems for surplus food.
- **Careers:**
    - **Sustainability Managers:** Implement waste reduction strategies in businesses.
    - **Food Safety Experts:** Ensure donated food meets safety standards.
    - **Chefs/Restaurant Managers:** Optimize portion sizes and minimize kitchen waste.
- **Source:** The UNEP reports that 26% of food waste comes from food service, and 13% from retail. United Nations Environment Programme

## 5. Lack of Food Redistribution

- **Estimated Contribution:** Approximately 5-10%
- **Sub-problems:**
    - Surplus food not reaching people in need.
    - Lack of coordination between food producers and charities.
- **Careers:**
    - **Nonprofit Managers:** Run food redistribution programs.
    - **Social Workers:** Connect communities with food aid resources.
    - **Community Planners:** Develop local systems for food recovery.
    - **Public Policy Developers:** Write policy legislation that aids food redistribution and funding for same.
- **Details:** Surplus food often isn't redirected to those in need due to logistical challenges and regulatory barriers.
- **Source:** The World Food Programme highlights that 60% of food waste happens at the household level, emphasizing the need for better redistribution mechanisms. World Food Programme

## 6. Environmental Impacts of Food Waste

- **Estimated Contribution:** Indirect but significant
- **Sub-problems:**
    - Methane emissions from decomposing food in landfills.
    - Wasted water and energy used in producing uneaten food.

- **Careers:**
    - **Environmental Scientists:** Study and mitigate the environmental effects of food waste including development of large scale composting efforts.
    - **Renewable Energy Engineers:** Develop biogas systems from food waste.
    - **Policy Advocates:** Advocate for regulations to reduce food waste.
    - **Food Inspectors:** Find and recycle spoiled food while limit wasting refrigeration, warehousing and transportation
    - **Researchers**: Develop spoilage detection systems
- **Details:** Food waste contributes to 8-10% of global greenhouse gas emissions, impacting climate change.
- **Source:** The UNEP states that food waste generates up to 10% of global greenhouse gas emissions. United Nations Environment Programme

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## 7. Cultural and Institutional Barriers that exacerbate food waste

- **Estimated Contribution:** Varies by region
- **Sub-problems:**
    - Cultural norms promoting excess.
    - Policies restricting donation or redistribution.
- **Careers:**
    - **Cultural Anthropologists:** Study societal attitudes towards food waste.
    - **Policy Analysts:** Draft laws to encourage waste reduction.

    - **Advocacy Specialists:** Promote awareness campaigns for systemic change.

- **Details:** Cultural norms and institutional policies can either mitigate or exacerbate food waste.
- **Source:** The FAO discusses how cultural practices influence food waste patterns. Wikipedia

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## 8. Lack of Awareness and Education on Food Waste

- **Estimated Contribution:** Indirect but foundational
- **Sub-problems:**
    - Limited understanding of the scale and impact of food waste.
    - Lack of skills to preserve and utilize food efficiently.
- **Careers:**
    - **Educators:** Teach about food systems and waste reduction.
    - **Public Health Professionals:** Promote healthier and waste-conscious eating habits.
    - **Media Specialists:** Create campaigns to raise awareness about food waste.
- **Details:** Awareness campaigns and education are crucial in changing behaviors that lead to food waste.
- **Source:** The World Food Programme emphasizes the role of education in reducing food waste. World Food Programme
- Solving food waste requires a multidisciplinary approach involving agriculture, technology, business, education, and environmental science. Careers in these areas directly address the sub-problems, making them vital to global sustainability efforts.

Addressing global food waste requires understanding the contributions of various sub-areas. Below is an estimated breakdown of these sub-areas and their contributions to total food waste, along with relevant sources for verification:

These estimates provide a framework for understanding the multifaceted nature of food waste. Use this detailed breakdown as a way of looking at a problem of your own choosing. Ask people in the industry to assist in identifying organizations and individuals who are working on the specific sectors of interest to you. Addressing each sub-area requires targeted strategies and collaboration across sectors.

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## B. Choose the field that most concerns you.

Here is an alternative way of giving priority to finding your contribution through your climate career. Still using Project Drawdown (PD), to look at the potential for amount of carbon emissions that can be removed through your chosen area. Let's take one of sectors featured prominently in the media. Here's the PD statement on On Shore Wind Turbines: *Onshore wind turbines are rapidly being incorporated into electricity infrastructure around the world. An increase from 4.4 percent of world electricity generation to 20–27 percent by 2050 could reduce emissions by 46.95–143.56 gigatons of carbon dioxide equivalent greenhouse gases. Net first costs to implement are US$0.92–1.89 trillion with lifetime net operational savings of US$3.77–9.83 trillion. These are conservative estimates, however. Costs are falling, technology is improving, and capacity is increasing to generate more electricity at the same or lower cost. https://drawdown.org/solutions/onshore-wind-turbines.*

In this case, you are looking at one of the high impact fields that is already a strong contributor to the efforts to drawdown climate change carbon emissions. The facts about wind energy are being ignored in the American federal decisions since 2025 including facts about the lower cost of wind energy compared to fossil fuel alternatives. This problem on it's own is a huge opportunity for PR, marketing, advertising, policy making, news reporting and political action.

Implementing onshore wind turbines involves addressing several challenges, each contributing differently to the total costs and benefits. Below is an analysis of the weight of these sub-areas and associated careers:

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## 1. Difficulty Recycling Turbine Blades

- **Weight:** ~5-10% of total costs and challenges
    - Turbine blades are primarily made of composite materials, which are durable but difficult to recycle. As older turbines reach the end of their service life, this issue is growing in importance.
    - While recycling challenges are not the largest cost driver, they affect the sustainability and public perception of wind energy.
- **Careers:**
    - **Materials Scientists:** Develop recyclable or biodegradable materials for blades.
    - **Recycling Engineers:** Innovate processes for breaking down composite materials.
    - **Environmental Policy Experts:** Draft regulations to manage blade disposal and recycling.

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## 2. Land Use and Community Acceptance for Wind Turbines

- **Weight:** ~15-20%
    - Onshore wind turbines require significant land for installation and access. Opposition from local communities over noise, aesthetics, and land use adds to the difficulty of implementation.
- **Careers:**

- **Urban and Rural Planners:** Balance land use needs with renewable energy development.
- **Community Engagement Specialists:** Address concerns and negotiate solutions with local populations.
- **Environmental Scientists:** Assess and mitigate land use impacts.
- **Public Relations Specialists**: Provide opportunities to present the facts and positions.

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## 3. Initial Capital Costs

- **Weight:** ~25-30%
  - The high upfront costs of manufacturing, transporting, and installing turbines are a significant barrier. However, these costs are offset over time by low operational costs and zero fuel costs.
- **Careers:**
  - **Renewable Energy Economists:** Model long-term cost-benefit analyses.
  - **Mechanical Engineers:** Optimize turbine design to reduce costs.
  - **Project Finance Specialists:** Secure funding and manage budgets for wind projects.
  - **Green Bankers:** Provide funding for environmental and climate solutions with viable break-even timelines.

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## 4. Grid Integration and Intermittency

- **Weight:** ~20-25%

- Wind energy's intermittent nature poses challenges for grid stability and reliability. Battery and other storage solutions and grid upgrades are required to accommodate fluctuations in energy supply. Careers:
- **Electrical Engineers:** Design smart grids and energy storage systems.
- **Data Scientists:** Optimize wind energy integration using predictive modeling.
- **Grid Operations Specialists:** Ensure grid reliability and balance supply with demand.

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## 5. Environmental and Wildlife Impacts of Wind Turbines

- **Weight:** ~10-15%
  - Concerns over the impact on wildlife, particularly birds and bats, can slow project approval and increase mitigation costs.
- **Careers:**
  - **Ecologists:** Study and mitigate impacts on local ecosystems.
  - **Environmental Compliance Officers:** Ensure projects adhere to environmental regulations.
  - **Wildlife Conservation Specialists:** Develop strategies to protect vulnerable species and look for opening alternative habitat for displaced wildlife.

## 6. Supply Chain and Manufacturing Challenges

- **Weight:** ~10-15%
    - The production and transport of large turbine components involve complex supply chains, which can be disrupted by geopolitical or economic factors.
    - Transportation of large turbine components is easier in the offshore environment due to freedom to move without roadways. Near shore production can facilitate this advantage.
- **Careers:**
    - **Logistics Managers:** Streamline supply chains for turbine production and delivery.
    - **Manufacturing Engineers:** Innovate efficient production methods.
    - **Policy Analysts:** Evaluate and address geopolitical risks in supply chains.
    - **Transportation Planners**: Develop routes and permits for moving components to the construction sites.

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## 7. Wind Turbine Operations and Maintenance Issues

- **Weight:** ~5-10%
    - While wind turbines have relatively low operational costs, maintenance can be expensive, particularly for turbines in remote or hard-to-reach areas.
- **Careers:**
    - **Wind Turbine Technicians:** Conduct regular maintenance and repairs.

- **Remote Monitoring Specialists:** Use sensors and AI to predict and address maintenance needs.
- **Safety Engineers:** Develop protocols to protect workers during maintenance.

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### 8. Policy and Regulatory Barriers

- **Weight:** ~15-20%
  - Inconsistent policies and regulatory hurdles can delay or prevent wind projects. Permitting and zoning issues often create significant obstacles. This is certainly increased with new policies of the second Trump administration.
- **Careers:**
  - **Policy Advocates:** Work to simplify permitting processes and promote supportive legislation.
  - **Regulatory Analysts:** Navigate legal requirements to ensure compliance.
  - **Renewable Energy Lobbyists:** Advocate for policies favoring wind energy development.

## Summary of Weight Distribution

- **High Impact Areas:** Initial capital costs, grid integration, land use, and policy barriers (~70% combined).
- **Medium Impact Areas:** Environmental impacts, supply chain challenges (~25% combined).
- **Lower Impact Areas:** Blade recycling, operations, and maintenance (~15% combined).

By addressing these challenges through innovation, policy support, and collaboration, onshore wind energy can continue to grow as a sustainable energy solution. The associated careers highlight the multidisciplinary nature of the sector, requiring expertise across engineering, economics, ecology, policy, and community engagement. For additional references go to the PD website on On Shore Wind Turbines.

# 10. What  you don’t know about the market for climate careers and green jobs

What do you know how fast things are moving in your chosen climate field? Build a firm understanding for the job you are about to enter through intensive research. Yes, some assembly is necessary!

Why should you worry about your knowledge base? Because information is power. Information is the key to the best jobs. You need that breaking news to create new jobs or know where they are being created. What you don’t know about your climate field could bring your career to a screeching halt.

Your mentor should move you along as quickly as possible. Tell your mentor what you do now and then ask, what next? Also ask, who should you contact next? Even better is to prepare your own view of what’s next and talk that over with your mentor. We will talk about developing mentor relationships in another of the topic chapters.

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### What else should you be doing?

1. Ask your mentor and everyone who is in the field about their sources of new and breaking information. Ask about industry newsletters, blogs, corporate websites and general news sources that have features in your field. Then start reading and looking for breaking ideas and technology, regulation changes, and more! Always focus on:
    - The problems being solved
    - What’s new in the field
    - Who is bringing new concepts or products to market
    - Names: people, companies, government agencies
    - Follow the money. Who is spending new money in the field and what is the incentive?

2. If your search skills are rusty (or non-existent) you may find AI is a quick way to uncover tons of good information. Start asking about fields of interest and citations to ground the results in reality. You can still benefit from your locale library and ask about workshops or help from a librarian on search methods. Rather than fully trusting AI, do two things, ask AI for links and references where you can follow up on important or suspect information. And discuss your AI information with a mentor and your colleagues testing for errors. AI will not answer the questions you don't ask, so be careful to be thorough in asking questions and look for follow on ideas to check.

3. Insider trading on investing is illegal for good reason. It's unfair to other investors. **Insider information for your climate career is essential** (and not illegal up to the point where employers create an even playing field during the hiring process). Everyone who wants a job should be gathering as much information from inside the target organization as possible. You want to land a job worth having so learn where the resources are that you need to solve the problem exist.

2. Again, your choice of mentor(s) is a large step in learning what happens inside your chosen field.

3. The next step is to ask you mentor(s) and your more casual contacts is, how to stay in touch with the changes. It's one thing to find one lead on a new trend, now how do find what that lead really means for you?

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## What trends should I follow?

There are broad spectrum changes worth knowing about:

1. Is there legislation that is changing the structure of regulation related to your field? Are old regulations about to be "sunset" out existence? What is likely to change in the next administration? How do you prepare to take advantage of this course of events?

2. Are new funds available that have an impact on your field? Do they translate to job creation or business start up opportunities? When funds were clawed away in the early Trump 2.0 administration that changed the careers of thousands of people and the seesaw legal battles make long range planning near impossible. Anyone who can maintain their balance and find a route in this chaos is going to really valuable. Remember about the recommendation to have your next career on your planning schedule, this is a example of tsunami at play in the job market.

3. What new technology is breaking? Will it create jobs on the market, if so how soon? How certain is that prediction?

    - If the prediction is like the recent fusion "breakthrough," the development is another decade or three before there is likely to be any job market impact other than for researchers. Not something I want to hang my career hat on unless I had a Ph.D. in nuclear physics and willing to gamble on the long game and my superior faith in my ability.

    - If the breakthrough is entering the market right now, then that's more timely and of interest. Bring that information to your contacts and ask them if/how and when this will increase opportunities. Even better, bring a proposal for how you can bring them this new development successfully into their organization for financial advantages!

5. What companies or other organizations have new contracts that relate to your chosen field? I will also include the controversies in the climate related industries. There are usually two sides and sometimes more. You may see an idea that should take off, but maybe there is enough opposition that it simply won't. That's worth knowing too.

## How do I Turn This into my Climate Career?

Insider information is of no value unless you invest. In this case it's legal! You invest your time by taking insider information to the next level, locating the possible employers. They are in the news, they are in the newsletters and digital searches you have been following. Ask AI to find the most influential leaders in your proposed field. Keep track of who is emerging with proposals and contracts in the fast moving field. Who has a reputation you like? Keep up with your mentor(s) and contacts discussing what you see. Don't expect them to find everything for you. You are much more impressive when you show up with the latest information and ask questions based on that.

**Make a job or take a job** is your next option. Figure out what organizations you want to work for. Start with five to ten that are viable and begin your research on there. Announced/advertised jobs are the positions managers know they have to fill. These jobs are defined by the existing needs or developing needs. Those are the ones you might take by applying for them.

There are better jobs, those the employer doesn't know they need to fill. This is where proposals employing the cutting edge information about the unknown data you just collected. Most people won't do this, but there is great power in crafting a proposal for a new job that doesn't exist. This is your opportunity to impress an employer with a proposal where they learn what they don't know and why they need to step up now and make use of the research you did. This happens when you pursue the information about what you don't know about your climate career.

## Fastest Approach to Gather Career /Job Information

In our tech world you gather information at the speed of light; on the internet! Yes it's fast. But if you want information tailored to your questions and background, people in the field are going to move you faster than the internet. It's still worth having contacts and mentors who are tuned to your personality, experience and goals helping you see what you need next. Use the technology but don't turn your back on the human element for feedback, creativity and inspiration to succeed.

# 11. Choose a Problem Based on Personal, Community or Social Justice motivation

Maybe there is a community related problem you feel compelled to address because climate is having an over sized impact on a certain group close to your heart. I would, again recommend looking to Project DrawDown so you know what the problem looks like in it's broader scope across the globe. That broad perspective will also tell you whether this is a petty local and nasty problem or if is pervasive and afield everywhere. Knowing the difference could help you craft your approach and let you know about the scope of the resources available.

It's quite possible PD hasn't put your chosen problem into one of their clusters. In fact you may find that solutions for your problem are spread among several of the climate solutions they list.

For example, let's suppose your community is one that is dealing with the problem of increasing storm surges due to sea level rise and increased storm frequency as well as magnitude. Could there be a part of the solution you are looking for in Coastal Wetland Protection or Coastal Wetland Restoration project, two areas PD does cover.

It could be things are dire enough, you are beyond efforts to stop or slow the effects for your community and you are looking for career and other opportunities to help migrate your community before more people lose their homes or their lives. That's a totally different game that is **because** of the effects of climate change created the problem and your solutions are for helping people. Your work won't likely contribute to the draw down of atmospheric carbon. That's not what you need to be doing in this emergency situation!

Communities worldwide suffering from sea level rise face complex challenges, including loss of land, livelihoods, infrastructure, and cultural heritage. Here's an overview of what's being done to help these communities and the professionals involved:

## Efforts to Address Sea Level Rise Problems as an example of a personally chosen problem

### 1. Climate Adaptation and Resilience Planning

- Building infrastructure to withstand rising waters:
    - **Seawalls, levees, and dikes** to protect low-lying areas.
    - **Elevating buildings** and critical infrastructure.
    - **Stormwater management systems** to reduce flooding.
- Promoting **natural solutions**, such as:
    - Restoring **wetlands, mangroves**, and **coral reefs** to absorb storm surges.
    - Encouraging **sustainable land use** practices.
- Professionals:
    - **Civil and Environmental Engineers:** Design and build adaptive infrastructure.
    - **Urban Planners:** Develop comprehensive resilience plans.
    - **Community Action Planners:** Organize community groups for self help and political action.
    - **Ecologists and Conservation Scientists:** Restore and manage natural barriers.

### 2. Managed Retreat (Migration)

- Identifying and relocating vulnerable communities:
    - Planning for voluntary migration to safer areas.

    - Finding and funding suitable relocation sites.
    - Ensuring social, cultural, and economic continuity for displaced populations.
- Professionals:
    - **Geographers and Climate Scientists:** Assess areas most at risk.
    - **Social Workers and Community Organizers:** Support affected populations.
    - **Land Use Planners:** Identify and develop new sites for relocation.
    - **Policy Makers and Advocates:** Craft policies and secure funding for relocation.

**3. Securing Funding and Resources**

- International aid and financing:
    - **Climate funds** like the Green Climate Fund (GCF) and the Adaptation Fund support vulnerable nations.
    - Partnerships with NGOs, UN agencies, and philanthropic organizations.
- National and local initiatives:
    - Governments allocate resources for adaptation and relocation.
    - Grants and subsidies to affected communities.
- Professionals:
    - **Development Economists:** Assess costs and develop funding strategies.
    - **Grant Writers:** Secure resources from international donors.

    - **Policy Advisors:** Advocate for government funding and policy changes.

**4. Legal and Advocacy Support**

- Establishing legal frameworks for climate refugees:
    - Advocating for international recognition of **climate-induced migration needs**.
    - Protecting the rights of displaced individuals and communities.
- Holding major polluters accountable:
    - **Lawyers**: Legal actions to secure funds for adaptation and relocation.
- Professionals:
    - **Human Rights and Environmental Lawyers:** Advocate for the rights of climate migrants.
    - **Environmental Policy Experts:** Work on international agreements.
    - **Climate Advocates and Activists:** Raise awareness and pressure governments to act. Lobby with governments that are likely to help.

**5. Community Engagement and Education**

- Empowering communities with knowledge:
    - Providing information about risks and solutions.
    - Training in alternative livelihoods and disaster preparedness.
- Fostering participatory planning:
    - Involving communities in decision-making to ensure culturally sensitive solutions.

- Professionals:
    - **Educators and Trainers:** Lead awareness campaigns and workshops.
    - **Community Development Specialists:** Facilitate participatory planning.
    - **Cultural Anthropologists:** Help preserve cultural identity during relocation.

**6. Research and Innovation**

- Studying the impacts of sea level rise:
    - **Ecologists:** Monitoring coastal erosion, subsidence, and ecosystem changes.
    - **Climate Scientists:** Developing predictive models to inform planning.
- Innovating solutions:
    - **Civil Engineers:** Developing floating cities, amphibious architecture, and climate-adaptive agriculture.
- Professionals:
    - **Scientists and Researchers:** Study impacts and propose solutions.
    - **Architects and Designers:** Create innovative, climate-resilient structures.
    - **Technology Developers:** Build tools for monitoring and modeling.

## Challenges

- **Funding Gaps:** Many vulnerable regions lack the resources for large-scale adaptation.

- **Social and Political Resistance:** Relocation and major infrastructure changes can face opposition.
- **Cultural Loss:** Forced migration often threatens traditions and community identity.

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## Examples of Action related to sea Level Increases

- **Kiribati:** The government has purchased land in Fiji as a potential relocation site for its citizens.
- **New York City, USA:** Investments in seawalls and flood-resilient infrastructure after Hurricane Sandy.
- **Bangladesh:** A comprehensive flood management plan, including community relocation and floating farms.

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## Sea Level Career Summary:

Efforts to help communities suffering from sea level rise are multifaceted, involving professionals from engineering, policy, legal, environmental, and social sectors. Success requires collaboration across disciplines, innovative solutions, and sustained funding to address both immediate needs and long-term resilience.

Career titles supplied in this section are examples of a few of that exist related to the areas discussed. There are **many** more and often the people who make organizations work are the, **support staff, laborers, accountants, lawyers, IT folks and many more**. We can think of them as the necessary infrastructure that are going to make things work for the specialists. These roles might fit better for many of you than the specialists roles I named here. At the beginning of this book I outlined specific ways to assess ways to make a better fit for you as an individual. If you have skipped to this part, I recommend you return to the

beginning and make the most of understanding what will work for you. At least I urge you to interview people in the fields you think viable for you,

## 12. For Those Who Want to Move to a Climate Career or Green Job

So much is happening by way of transitions in the job market place since late in 2022. The Great Tech Layoff in technology from Twitter, Meta and a host of smaller tech companies has turned off the steam that kept coders and associates pumping out the ways things work. In addition, the Great American Walkout has a continuing fallout with large numbers of potential workers drifting in and out of work due to lack of fulfillment on the job. Now we are in the midst of federal layoffs of an unknown proportion. All of these workers are great candidates to transition to more meaningful Climate Careers and Green Jobs.

Money may have kept workers at the grindstone honing the digital meaningless future of social media. And many workers—finally— learned more money doesn't make a meaningless job better! Too little money can distract from good work and good works, but no matter what it pays, a bad job is still just that. Enough money is worthwhile, more may entice you to work where you don't belong, where you will blunt you impact and ultimately to lose your way towards fulfilling goals. There's nothing wrong with excelling at making money as long as your goals are being met in the process.

In the US, new funding in 2024 was working it's way into climate careers and green jobs from the Inflation Reduction Act. The new administration turned that projected plan on it's ear. The nine million predicted new jobs (Forbes) are in turmoil at best or eliminated at worst. What should you do now?

The problems haven't changed regardless of the gas lighting about wind turbines causing cancer or solar energy is too unreliable. This is the time to follow the money to see what will succeed in the changed economy. Texas has more wind energy in the US than any other state. California closed its last contract for coal fired electricity. This is a time that requires flexibility and the ability to dig deep for information on which state, county, tribe, or city is able to keep their green plans moving forward. Certainly there are expanding job markets in the green industry

outside the boundaries of the US that should be considered. Building career capital for the future might be the best strategy and if you can afford specific education this might work for you.

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## Make Meaning as you Transition to climate careers and green jobs

Dig into your ideas about what is worth doing now. I want you to to work on climate change issues. Even if  this is not the best time to make a transition to climate careers and green jobs in your country of origin, it may be ripe in other parts of the world. Dream about working on the biggest problem the world has ever faced. Pick a couple of those and consider how you might approach the issues. Put that in context of the work you used to do to see what you can apply from your early work to solve the climate problems.

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## Skills from your old job can be applied to climate careers and green jobs

Those skills you built are valuable in the green industries and successfully campaigning for jobs that are 1. A best fit with your values and interests and 2. creating opportunities to develop new job opportunities that didn't exist before. This second option could be a result of your proposal you pitch for a new position or your discussion with those with the power to hire who see potential in you for a new option. Both options are more likely to happen within small organizations.

That means you should appraise the skills you developed in recent work and training. You can't go wrong with Dick Bolles *What Color is Your Parachute?* for his chapter on skills analysis to help you consider what's worth selling to your next employer. Do the work on this, it will be worth the effort! A brief summary of the Bolles/Crystal method is to make a list of all your skills. Do this by describing what you do in your job as though explaining to a five year old. Make it simple, make it complete. Then sort this micro skills into piles of ones you really enjoy, the ones you find dreadful and ones you don't have much attachment to but will do willingly. Then start looking for work that makes use of the your "enjoy" pile and let's you avoid the "dreadful" pile.

Circle back to the green problems you developed above and start a considered strategy for using your skills as you have better re-imagined them. People who transition to new fields always have new insights and ideas about doing things better! That's because you bring fresh perspective and experience.Your view of the problem(s) could be exactly the fresh approach needed! Make sure you cast your skills in that context using the vocabulary of your new green target employer. Don't let anyone tell you that you don't have the right background. That's just short sighted thinking on their part. Show them how you **project** your experience and skills into addressing their most pressing needs.

I once heard of diesel mechanic who was told his experience wasn't transferable to gasoline vehicles! That's how narrow minded some managers can be. Your job is to move them off that set and show them fresh thinking that's based on your different experience and slightly different skill set. By the way, do you really want to work for a manager who can't bridge the gap with you after you made your best pitch? Probably best to just move on, it's not your failure it's on the manager.

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## Where do you look and where will you end up?

First of all, consider where your chosen climate/green problem is the worst. That's where you should go. Do you apply from a distance or just go? Balance between your resources and your obligations to make that decision. If you have the resources and flexibility to go to the problem area, that has huge advantages. It affords you easier contacts and understanding most rapidly the context of the problem. By context I mean, social and cultural factors that will be part of the problem and the solution. Context also involves the resources available on site and a true sense of place. What is near the work site? Think of possible partners, education and training programs, raw materials, access to energy and space for your work and for all your work needs. Seeing first hand beats reading or hearing about it or even seeing it in a video context.

Start looking at organizations that do the work you want to do. Will they have the resources you need to address the problems you landed on? Is their reputation one you respect? If so, you are looking at a possible partner. (Yes, you should think of your employer as your partner.) If not, keep looking for the best match. Is your target organization poised to grow into the partner you need if they are not already?

Can you launch a start up of your own (you, or you + other creative folks)? If so you are creating a realistic business plan that includes funding, resources needed, staffing, etc. Maybe you know the drill from being inside a start up.

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## Respect Yourself

The way to a future with meaning is to project your values into the future. Everyday ask, What's worth doing? Moving with virtue is the best way to respect yourself and to do the most common good. No one wants to do meaningless work. This is a time when meaning is large because the climate problem looms so large. Solving this will improve the most common good for people, for wildlife for the plant life of the planet. This is a field that will require your endurance and will beg credulity of your ability to gain traction on the scope of the work that needs to be done. If you want respect for yourself, this can be your life's work!

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## More Resources

Climatebase does a very credible job of listing a large number of positions. Don't over look the green jobs listings available in the jobs data base from all US states as well. When you see jobs listed where you expect them to be "green" jobs, take time to evaluate each job you see. Do your research on those of interest and drill down to see not just what the job involves but what the employer is doing in the fullness of their operations. Large, multinational corporations often have more agendas than might appear when you first look at the job listed and the department it comes under.

But, do not start your path to a new career, a new green job with job search! That way lies impulsive decisions that might seem to solve immediate problems. Jumping too fast is likely to increase your future lack of satisfaction with the end result! If you skipped to this piece without completing the work on developing a full description of **What** you want do and **Where** you want to do complete with goals, goals, values interests and impact analysis, respect yourself and do this right! Go back to the beginning of this book and labor through the early steps of career development for yourself.

## Conclusion

Where ever you are in the world there are problems related to climate change that need to be solved. Your immediate job is to find a place where you can contribute your skills and gifts. As you research those options I highly encourage you to do one more thing.

Go meet the people who do the job you want. Most of all, find out if you like these people. Satisfaction on the job depends on that factor more than any other. See what they do. If possible, take an internship so you know you are choosing with enough experience that you know this is what you want to do. That is a strong positive message to managers who view that experience as a assertive step into their field. If you completed a successful green internship and still want to do this work it signals to the employer you know what you are getting into and that you are ready to move into a permanent job. As an manager, I wanted to make sure the people I hired were going to make the expensive search process worthwhile. An internship experience is one way you declare you are ready for then next commitment.

When you are ready to look at listings check out the daily offerings at #GreenJobs and #GreenJob on Twitter and at climatebase.org/.

# 13. Make Climate the Focus in Your Current Work Site

Here are four steps to move your current job towards more green functions and options. This will help you make a difference and make climate the your focus in where you now work. This essay assumes you work in an organization. If you are self-employed or in a very small organization, you modify these steps to fit.

There are three situations considered here. Consider which fits your current job and jump in.

**I. If Your job isn't focused on climate change.**

It's hard to imagine you could get stuck in your job! Early in your career maybe you swapped jobs like changing your socks. You didn't ever expect to feel stuck. But it happens.

Your job may have started as one thing and then it has turned into something you no longer want. Or you have developed more concern for the climate issues and don't see a path to that work from this job. If the job doesn't have the green focus you want, its time to move on or make a change in your present job. You might consider a new certification, degree or training. Before you leap, evaluate. It may be possible to satisfy your need at the place you already work and focus your work on climate there.

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## II. If Your organization does work on climate change, but you have no contact with that work.

**a. Propose a transfer to the sector where climate change work is happening:**

- i. Cast about in your organization to find—if you don't already know—about opportunities to in a green job.

- ii. If you don't know where to start, ask everyone who might have responsibility for climate mitigation or ask them who does. Ask them to introduce you to their contact.
- iii. Go meet the person or people you learn about.
- iv. See they do in their jobs and how that work might help fix climate problems.
- v. Ask them about the work they do and the skills they need.
- vi. Ask them how they arrived where they are in their work and how someone new would make that move now. The path to this work may have changed since they started, so don't skip asking about the fastest way to qualify for this position in the present time.
- Vii. Decide if the focus in this sector matches up with the problems you want to work on.

**b. Find a way to support climate work if you can't transfer.**

- i. Ask if there is a committee or work group in your organization you might serve on. If not propose one.
- ii. Suggest you might provide the information link about the climate work to the other people in the organization. You may write a newsletter (which could be a blog, social media, email circular, a podcast or print). It's always valuable to be the communications/reporter person for making contacts and for learning about news in the areas you want to know about.
- iii. This role provides a reason to gather information and interview people doing things you want to know more about. If you find this interesting, you might consider publishing your essays in publications (on line, on paper, etc.) while being careful you aren't sharing proprietary information about your employer.
- iv. Ask if there is a way you or your department might contribute to the climate effort. Then evaluate that pathway to see if it fits for your desire to move into more climate related work.

- v. Look for ways to train to make the transfer possible to a green job. In some organizations there are formal and informal ways to intern within the organization or formal training provided so you might build contacts and learn skills to make a move to do more of what you want.

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## III. If Your Organization and Industry is not about climate change.

**a. Learn what your organization does to mitigate climate change. If there is nothing, then skip to iii. below.**

- i. Research who has that job(s) and if the role doesn't exist ask why.
- ii. Propose that you join in that effort (if you want to). Go back to b. in Step II.
- iii. Brainstorm ideas about the most climate-positive work your organization could contribute. Perhaps there are resources in your organization not being applied to climate change issues. Almost any field can contribute knowledge, skills and other resources that are of value. Perhaps that will be a supporting role rather than the main effort. A new perspective might be helpful for management to see options that are not being considered.
- In the past some companies have found their work to decrease their climate impact yielded a new profit center and products to offer the market place.

**b. Develop an understanding of why that work you dreamed up is not already happening.**

- i. After you come up with brainstorm ideas, discuss your ideas with co-workers to see where there are like-minded people.
    - Find who has the power to make a decision to move the organization in that direction. Ask that individual about their thoughts. You might delay this until after Step iii. below.
- ii. Join with other like-minded people, or continue on your own.

- Develop how you see the potential for your organization to move to work on climate issues.
- Consider who would buy the products or services developed.
- Consider what the climate problems cost at present or will in the future. Develop a summary of those costs to your community and to your company/organization as well as costs for potential customers and clients.
- Moving your organization to clean energy options often saves money as solar, wind and storage options are competitive with fossil fuels. Other green options pencil out positively for organizations by saving on costs or providing new profit lines.
- iii. Propose to your power person (above) that your organization begin applying resources to solve climate problems. Proposals might be formal written business plans with time-related steps or an informal oral presentation delivered in the elevator.

- iv. Here's an example of proposing ideas a decision maker will find appealing from fisherman Marty Oldin, 'Here is the value proposition, and there is a strong financial argument for catching the right fish,'" he added. "We can show crews, 'Here is what you save on fuel, here is what you save on regulatory fines.'https://garage.hp.com/us/en/impact/ocean-conservation-sustainability-for-business.html
- v. If there is not a positive response to your proposal(s), continue to Step 4.

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## 4. If your training or your organization limit your options for working on climate change issues, start an exit plan to move where you want to be.

**a Evaluate your skills you would like to continue to use.**

- i. This is the time to stop mentioning skills you don't want to incorporate in your next job. I did this as I was tired of being the computer guy for other psychologists. It made my job less stressful once I was out of the role and me a happier guy!
- ii. Make sure you consider your management and people skills as tech folks sometimes overlook this important area.

**b. Evaluate your knowledge base you would like to continue to use.**

- i. If you field is in purchasing, consider what you have learned about products and materials. Apply that to climate issues. What could be changed in this practice to make your organization more sustainable?
- ii. If your field is social service, providing for people's needs, then you have learned about how people make decisions and what is important to them. That knowledge (and all that goes with it) maybe be necessary for an organization with lots of hard science but not effectively working with the people they encounter.

**c. Begin looking for problems that concern you most. Make climate the focus.**

- i. Consider how your skills will apply to this problem.
- ii. Match up your knowledge base with the problem.
- iii. Look for perspective from your current work. Then evaluate what's missing in the current approaches. Anything new you can add will be your value to add. This means dig in and research what solutions are in place and what's on the way.

**d. Make contacts with people working on the problem you want to work on.**

- i. Start close—geographically–and do this in person as much as possible. Always ask new contacts who else they believe would benefit you to meet. Expanding your contact basis is really valuable in moving your climate career along.

- ii. Then look for climate focus solutions around the world. Use all the tech options available to you, internet search, AI interaction, libraries and their staff.
- iii. Ask for new contacts from each person who works on something of interest to you.
- iv. Ask who does more of this function—the one you like most?

**e. Evaluate if you can make the move without more education. Seasoned employees who can evaluate and solve problems underestimate their value when making a lateral move. More education may not make you any more valuable.**

- i. Problem identification is key.
- ii. Solution communication comes next.

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## Conclusion

The opportunity to make a difference in the climate crisis and make climate the focus in your current work site is a possibility for people who want to make a contribution. Being stuck financially on your current job doesn't mean you are blocked from this effort. Use the plan above and go at your pace. It might yield results faster than you expect. An important factor in any hiring situation is that you demonstrate your motivation. We all know people who can do the work and don't perform. What every employer wants is the person who has the drive to make sure the work is done rapidly and well. Integrity in your work is a way of respecting yourself and making the most of every opportunity to make your contribution effective.

In this process, knowing about the nature of the climate problems, in depth is the beginning of becoming an expert. Next, your proposal leans into this knowledge base. It is worth studying what is known and how it is described using specific terminology. You want to sound like an expert. Do your research, you don't want to propose a solution that died in the past—unless you know, really know— how to breath life into it.

Look for solutions that are in place anywhere in the world. Climate science and technology and now, political will are moving rapidly and many new ways of approaching climate are emerging. Put the latest ideas into a proposal with solid predictions of how you can make them work. Next, follow the money in your problem/

solution to make your proposal attractive. How will your employer make more money, save money or do more with the money they already spend? Few organizations do the right thing until the money works for them.

# Why Transition to a New Green Job?

## 14. Why would you want to switch to a new green job?

Maybe your current job pays the bills, but you aren't contributing to solving those problems at work. A career is a fabulous invention that takes human intention and turns that into laser focus on a problem. If your growing concern about climate change isn't reflected in the work you do, consider a transition to a new green job. If you could contribute more to climate solutions in your current job, make the change to leverage that into place.

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### Green Job Advantages

When your green job is all about solving the climate problems, you get paid to take your best shot at fixing the problems you identified.

If fixing the climate is your job, your career, then you made a commitment to yourself. With that commitment, you are strongly expressing your values and respect for yourself. If your commitment is public it becomes a contract with an employer or your customers/clients to solve the problems you chose.

When you work for an employer you—usually— will have colleagues to help you. This is tremendous support. These are people who will challenge you, supply stimulation and share ideas and solutions for common problems you face as well as work as a team with you.

When you choose an employer with the resources you need, you have a partner. Your partner will supply the resources to make your best effort. Think about everything from space to work, to funds for supplies and equipment. This means

do your research and choose your employer wisely. They expect you to represent them. You should expect them to represent your choice as well.

As a solo worker on your own, you have to find the income for the resources or supply them yourself. And you have complete freedom to do what you think will work best given those resources.

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## Making a commitment to a Green Job

Commitment: In our society, your career is often a large part of your identity. If you choose to commit to work on climate change problems as your job you jump past all the baggage about climate denial. You have aligned yourself with the effort to make an effort to change the course of our planetary climate. Everyone talks about the weather and now you are going to do something about it. It's not just the weather, but the whole system of planetary weather is you stage to work on. People will understand the commitment you made as a serious effort.

Select what your problem is going to be. You can't solve the whole thing. Look for the problem for which you have the best preparation and skills to apply. You might have thought contributing to alternative energy was the best thing that could be done. However, you might be better at teaching. Project Drawdown is a great source of analysis of what is needed. It will also provide calculated assessment of what your contribution will add up to. You might be impressed with how much the skills you have are needed.

Once you are in your career, look for the professional associations. Or, even before you enter. Many of the associations welcome students in related fields and even folks from other careers. Make the contact and ask about local association meetings you might attend. I recently attended the international meeting of Ornithologists, hosted virtually.  I paid a little more than members, but after that there was no difference for my attendance and anyone else. I found it a great way to obtain insider information about research, practices and technology ornithologists are currently using and had a view of what they know now.

Ask your new contacts in the field, who else does what you are doing? What groups do they belong to? If you don't find what you are looking for, start a new association. This is for your mental health support as well as building a

professional support association to reach out to for help and understanding in your new career.

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## What are the best Green Jobs?

Who is asking? This is a question you can't ask anyone else to answer. Or, rather you can, but the answer you get may be of little value to you. It is so seductive to think an expert could tell you what's best for you. If I give you an answer, I walk away. I will never care as much as you will if I got it wrong! So let's visit some ideas of what to consider. If you've been following from the beginning of the book you know I see value in the "forced choice" method of comparing possibilities. It's a good stimulant for considering your position on relevant employment questions before you are actually doing the work.

- Would you rather lead the team to identify and define the problems OR Be one of the team members responsible for supporting the leader?
- Would you rather be in the field (outdoors) OR Be the person in the lab?
- Would you rather work as an educator OR be working in technology?
- Could you be the person in agriculture OR working in solar/wind energy?
- Influencing people in power OR Being the power person making decisions?
- Can you imagine being an inventor with a new product for (refrigeration, wind/solar energy for example) OR the fabricator who makes the parts and assembles the products?
- Does the idea of new market roads appeal to you for getting food there while it's fresh OR would you rather grow the food in the field?

These questions might go on and on. The point is to push yourself to look at what you feel is worth doing. Assess if you have the motivation develop your skills and knowledge until you have the levers to make a significant contribution. Make it a decision that will expand your abilities and make use of your best gifts.

I might look at the climate needs and my skills and think I could be really good and very satisfied being an architect designing highly efficient neighborhoods people would enjoy. I might also conclude I am the kind of person who knows about education and has traveled throughout the world and would enjoy making a contribution to teaching girls and women to make a better life for themselves. The same person could see a number of possible good, solid choices that would have different outcomes that are of great consequence. The final decision is yours to pursue and to do your best.

In the end you might well believe there are several other "best" green job choices for you that have similar leverage at making a difference on climate change problems. Your next step is to make a commitment to problem for the near future. If you make your career process knowing your commitment is good for you now, it doesn't have to be your choice for the rest of your life. Do a good job this time and then change when circumstances change.

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**Commitment toAddress Climate Change in your Career.**

Remember, commitment is a form of respect for yourself. You can know there are equally good possibilities you didn't chose. But when you commit, you put yourself into the fray and do your best. With a job, there will be times to assess. Is this still what I want to do? Am I making the difference I want to see? Until you get to the point where the answers suggest change, keep your head down, do your best.

# 15. Why Start a Climate Career Now?

Career is one of the big commitment areas of your life. Career is a chance to make a strong contribution addressing climate issues. When your job is climate you are going to be working 2,000 hours a year on that issue. That's 40 hours a week for 50 weeks a year, full time employment that's nearly five million minutes total. Many of us work many more hours than that. So Why Start a Climate Career Now? It's one way to make an impact every working day and get paid. Take this one amazing life you have and do something you can feel proud of.

I retired, so now I volunteer. I consider this book part of my voluntary effort. I am giving it away free as a PDF to anyone who wants it. Technology now makes this possible for me to do for very little expenditure other than the hundreds of hours that went into this. If you value the book, pay it forward by sharing this PDF version of *Climate Change Means Green Jobs* to everyone you think would benefit. When my retirement work is focused on climate I am rewarded by working with others sharing my concerns and ideas. I also have the reward from making a contribution to a problem I am deeply concerned about. These are my reasons in answer to Why Start a Climate Career Now?

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## Politics and Government Should Solve the Climate Crisis!

If you decide to work in politics, solving the climate crisis is a reasonable goal for your work! For the rest of us, we get to vote. We can use our voices by writing, calling and talking to our representatives. We can use our money to support politicians we value.

Many times I find politicians and government are not solving the problems I want solved even after my voting, calling, writing, and spending. Why Start a Climate Career Now? I found that our careers are one place we can chose the problems we will work on. It's more satisfying that hoping some politician somewhere might value what I do and then take action. Too often I don't see that happen. A green job and a climate career is a way to choose your contribution. Some of us have more control over the work we do than others. Let's look at how to gain more control.

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## How to Take Control of Your Climate Career Now

Education and training are the ways I see people gain control over their careers. My first career choice was physics. I found the higher math necessary for doctoral level physics (my goal) was beyond my capability. My second choice was psychology where the math required was something I could master. Your challenge might be different, including financing the education you believe you need.

Start with a career problem in mind and choose one you are most concerned about. Next, lets talk about education and training. I found through years of career counseling that many, many people are misinformed about the education they need

to address the problems they want to work on. One way to cut through the haze is to avoid a career/job title. Start with the problem as the target. Then look at the ways people approach that problem. More work at this stage is hugely beneficial to avoiding a long detour into costly education you may not need. I found as I pursued education as a psychologist there were other people solving the same problems I was interested as I was. They were not all titled psychologists. They don't all earn the same income. They were able to enter their work with more or less work and were licensed or not.

Any time you pursue the problem first you have a chance to see the alternative pathways that may bring you to your goal faster, cheaper and with better skills. Or some variation on those factors that you choose to approach the problem with.

My new contact after graduate school went to work with a BA degree four years earlier than me. His major was psychology, like me. He started his own consulting business. He was at work making a significant income while I was still paying out money for education and earning a pittance as a research assistant, teaching assistant and finally an intern. At the same point after our BA degrees I had a debt and he had accumulated savings. He was working for himself and I had scrambled on board with an employer. It was startling to learn his pathway existed without my knowledge. I believed it was impossible to accomplish what he did with a BA in psychology.

My point is this: almost no one knows all the paths take you to your goal of working on the problems you want to solve! And if they did? They wouldn't be able to accurately assess whether you could successfully follow that path and arrive at a viable position working on those problems. If you make your pathway a question of how do I get to be in this job title, you significantly narrowed the pathways towards building the skills and experience to work on the problems you targeted. That's why I recommend you see the problem clearly and then look for pathways and discover as many as you can before settling on a strategy.

My way of getting from a BA to a satisfying working position was a success for me. It cost me many hours in classes, more studying and a significant amount of money. I don't regret the process and the opportunity I had to meet a whole host of similarly oriented people. Still, I might have chosen one of the other professions or I might have done something like my friend if I had known of those pathways or

been able to imagine a creative pathway of my own. I'll recommend again you consider anyone who says you can't do X because (add here any reason they might come uptown with) as your enemy at this moment. They don't know all the ways to get there (especially if you are focused on a problem) and they don't ever know how much motivation you really have that will turn into an enormous effort on your part that they would never guess you could accomplish.

I got this idea first in a talk from the very accomplished science fiction writer, Ray Bradbury. From the beginning everyone told Ray he couldn't make a living writing science fiction. His story is magnificent, even if you don't like science fiction! He simply said thank you very much. I know you are concerned and I'll take your advice under advisement. Then he continued writing and submitting his work to publishers who eventually published 86 books and many, many published short stories and articles, fifty of which I see in 2025 have never been collected after their initial publication in periodicals. Ray didn't go to college, he wrote.

Here's a quote from Ray Bradbury: "I have never listened to anyone who criticized my taste in space travel, sideshows or gorillas. When this occurs, I pack up my dinosaurs and leave the room."
– R.B.

## Education and Training to Start a Climate Career

Once you have a problem(s) in sight, it is a great idea to talk to professionals working on that problem. Ask them what elements of their education were necessary. You will find some people have degrees that have nothing to do with the work they do. Ask them what education or training they would choose if they were starting now to approach this climate problem. Also ask them about time to arrive at the gate ready to work: what is the fastest route, what costs the least? Ask about non-degree alternatives such as badges, certificates and internships that you might be able to do very quickly. Remember, this is about what works to get you doing the work you want to do.

Consider that once you start working in a field you will meet others doing the work. As you do you may change your idea about what you want to add to your experience, education and training. This prep-work and then more prep (education or training) may create a more focused and creative way to keep you focused on the problem(s) you want to work on.

## Internships and Volunteer Work to Start Your Climate Career Now

The people who have opportunities to apply their education and training are more likely to understand their educational needs. I highly recommend working on your chosen problem as soon as possible as you are going to learn so much from others about education and training that is effective or necessary and what is not. You can augment your education in many ways and as you need to.

## So, Again, Why Start a Climate Career Now?

Why not? There are really important problems that need to be solved. What else can you do that is more important? You can start now! Given the dire looming climate crisis and the reversal of so many policies and plans in the US, this is a personal commitment to the future you can make.

Explore a world of career possibilities with green options that align with your passion for a sustainable future. As you browse through these roles, keep in mind

that eco-friendly paths aren't limited to just one sector — they span across industries far and wide. In fact, it's hard to think of a career where your skills couldn’t contribute to positive climate impact. The potential for change is everywhere, and your role in it could be bigger than you ever imagined!

# 16. Extending Your Career to Climate Issues

What do I mean, extend your career to climate issues? I suggest you can find a place to use the skills and education you already possess to work on the climate problems. As a career counselor, I often heard, "I am just a banker," for example. What the person means is, I can't do any other kind of work. We often limit our range of career movement, which is to say, we are stuck. The truth is, we mostly "stick" ourselves. Above I said Ray Bradbury considered anyone who told him couldn't write science fiction to be his enemy, well now I'm telling you when you say you can't do something you are your own enemy. If you tried and you decided it wasn't worth it—I did that with physics—that's honorable, but don't do it to keep from trying!

I've also seen people make career changes, radical changes. My supervisor when I was a research assistant in grad school was a former Catholic Priest. He was a Ph.D. psychologist when I met Jack. He was doing psychometric research and consulting with faculty at our university on testing and measuring all sorts of human capabilities. That seemed a bit of career path change! In my first job I became familiar with an engineer who had taken over the responsibilities for the university traveling choral group and quite engineering forever. He had no formal training in music, but was a huge success.

Making such a change requires imagination. The sticking points are more internal than external. If you have been repairing gasoline engines for the past 10 years you might think that's going to be your life's work. Because I had the opportunity to meet people who re-imagined their careers radically, I know this can be changed. Usually the compelling reason for change was boredom or dissatisfaction with the current job. Actually, it might be the occasion when they were fired! Getting fired might be the best thing that ever happened to you. It probably happens because you didn't care enough about your work to do it well. That caring business is very important. It shows through in performance and that leads to the exit door.

I want to convince you climate change is a compelling reason to change directions. Not only do I think we need as many capable people working on the tasks ahead, I also see that the work can be enormously rewarding. Contributing to society at the same time you contribute to the wildlife and habitats is an amazing task to take on. Contributing, that concept, is one of the best routes to meaning in life.

If you career isn't working for you, I can guess you are not very happy in your life. It's difficult to put up with a job that is a sour source of dissatisfaction day after day. One of my clients who wanted mid-life career change counseling came to our first session and she yelled her lament at me for the first half hour. I quietly asked her, "Are you done?" She asked back, "Yelling?" I said, "No, with that work." Work that does not fit your needs and goals can make you sick and she was sick of her co-workers and her work and her clients (law) and she didn't feel good. She then said, "yes, thank you. I'll figure it out from here."

Sometimes you just need to tell someone how bad it is before you're ready to move on. Maybe then you can believe yourself.

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## How to Extend Your Career to Climate Issues

The easiest way to extend is to add "climate" or "green" to your title. If you are a banker, make it Green Banker. There are climate psychologists and green architects. The title alone won't do it, but if you change your business focus, it will. Don't say, "I can't get there from here." Take another step.

Option 1. Start with a proposal. Look around for examples to emulate. Green Banks exist that you can use to see how they have focused their business. Propose to the bank where you work: commercial services you can extend to climate-based projects in your community.

Option 2. If your proposal doesn't work, jump ship and look for a green bank to work for, or start your own. Of course I don't know how to start a bank, but I see that it happens and in case you are not now a banker I want you to think of starting your own business as one of your possible moves.

Of course, most of you are not bankers, so you need to nudge these options to your career situation and modify appropriately.

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## Other options to Extend Your Career to Climate Issues

Option 3. Go visit professionals who are doing what really excites you about climate fixes. That might be going down the street or around the world, if you have the means. I want to tell you the means doesn't always have to be limited to your pocketbook. I know many people who found sponsors to send them to learn or to take on new challenges. One

friend traveled the world to look at best practices in habitat restoration. To finance his travels, he worked at each new location while saving personal time to learn from the restoration projects in that region. Ideally, he took a job in restoration, but sometimes it was just a job to get by. After two years he decided he wanted more education on mapping and remote sensing and the led to a masters degree and job helping look at post communist countries and their new land ownership models along with common parks, habitats and much more.

Proposals are the way to share what you are thinking with others. It might be a pitch you hone to thirty seconds or a multi-page study of the problem displaying how you fit the solution. You can pitch to the people doing the work you want to learn about. Pitch to the person who could fund your visit. You may need to pitch to the significant others in your life. Let them know you are on a mission to change your career with a green job and this is what it will take.

If you haven't an exciting idea for that visit yet, I recommend you look to Project Drawdown for a range of solutions to climate issues. Search the internet but ask all the people you know if they can put you in touch with anyone doing that kind of work. If that doesn't work, ask them who might know someone in the field you want to enter. Focus on the most creative, most innovative people and projects.

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## The Education Option to Extend your Career to Climate Issues.

I know, this is the one that often comes to mind doesn't it? Maybe you need a shiny new degree to break into that field? This is an expensive option that involves time not earning and money for tuition and other expenses. I pursued education and don't regret it, but the climate field has lots of opportunities that don't require a PhD or even a BA. Let's check a couple of possibilities. Have you tried to break into your climate career without a new degree or any degree? If not, how do you know you really need another degree?

Think like a project manager. Who do you need on your team? Especially if you are breaking into new work that hasn't been tried before? You might not know, right? What I want you to see is, people in charge are impressed with someone who can imagine, really put their skills and knowledge into this new work and find a way to take action that will get results. Have you done that imagining yet? If you haven't, then getting a shiny degree might not help any more than what you already have.

Maybe what you learned from your visits and information interviews (you did that earlier in this book, right?) is you really do need more education, but does it take a degree? There are certificates and badging options that might suffice. I noticed a financial advisor working for one of premier groups of funds has a BA, the A is for arts. The degree is certainly not in business or even economics or finance but communication. Certification offered by the employer and not the once necessary MBA seems to be enough to move this career along handsomely.

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## Educational Options To Extend you Career to Climate Issues

While you are meeting professionals doing what you want to do, ask them. What do I need? Specify the level you are shooting for. Of course you are sharing what your passion is for the work and what you think you can contribute. If that didn't convince them you are ready or they didn't hire you on the spot, ask them what you need to do next.

You already know education comes in many forms. I am from higher education, so I know about college degrees. I know about graduate degrees, credentials and professional degrees. In addition you may have experience with apprenticeships, corporation training programs, private company training, certification and badging programs. Internships are always valuable and volunteer experience is a possible training and education avenue that will start you on your road to your new field.

Given the wide range of options, I strongly suggest you go to the people hiring for the job you want and ask them what makes the best credential for the job you are aiming for. I once heard a factory owner say, "I prefer hiring English majors and literature grad students. I can teach them how to make our products—but I can't teach them how to write well or think critically." I met him at dinner as we talked about his policy. This example demonstrates why you should listen to the hiring folks before spending your time and money on more degrees. In some cases, the final preparation for your job can only come from the employer. The more specialized the product or service the more likely this will be true.

## Extend your Career to Climate Issues in a New Business

Some of you are happy with the career you have. You did a well in selecting and you like the people you work with. The problems are challenging and you use your skills at peak level often enough to stay well engaged. Good for you! Maybe you are looking to extend your abilities to the climate challenges because you are concerned and you like the idea of contributing to the solutions.

In green jobs there are people leading the charge and they are easy to identify. You will understand their work to some extent from their title. Climate Scientist is one of those. Hazardous Materials specialists is another. You might be the quiet force in ways that matter deeply, even if your title makes no mention of climate or sustainability. The work you do could be at the helm or at the hem. No one who works in the "title" career is going to work alone and if they do they are hiring help from others. That could be you.

## Summary

You can keep your job and begin contributing at work to address climate problems. Or you can change everything: your title and perhaps your field and employer on your way to have greater impact on the climate crisis. Of course there are intermediate positions to take as well.

Select your climate field and issues just as we talked about above. Latch onto something that is inspiring using Project Drawdown and your own research on climate efforts to evaluate the contribution your new field will make. Next start looking for organizations that do the work and start applying and making proposals. Use your skills to drill down to see that your chosen organizations are legitimate and not green washing efforts you would waste your time and efforts on. Some of the fossil companies came developed ingenious green-washing divisions that were to create alternative energy options. In most cases those projects languished and careers were stalled. Even the best ideas have a slim chance of replacing the goal of continuing the original goal to extract as much as possible.

The same is true of educational options, drill down to be sure your chosen program delivers with the knowledge and skills you need before enrolling. You might think you are on a direct path and building skills you will need, but it's really worth discussing this with the folks who hire or contract to see if your new credential is going to be as valuable as the time and money you put into it.

# III. Career Profiles and Inspiration:

- Climate action isn't just a global movement, behind every headline about climate change are people turning conviction into action. This collection brings their stories to life—scientists decoding data, entrepreneurs reimagining industries, activists building movements, and educators inspiring the next generation. Together, their paths trace the many ways progress takes root.
- Explore the diverse backgrounds and motivations of these individuals, as well as the unique contributions they make to advancing climate action and sustainability and draw upon their experiences to guide your own career path in climate work.

# Climate/Sustainability Manager, Garrett Wong

## The Job of Climate/ Sustainability Manager

As the Santa Barbara County Climate/Sustainability Manager, Garrett leads policy and programs. That includes projects in climate action and adaptation planning, energy efficiency and renewable energy and electric vehicle charging. He is responsible for developing and coordinating the County's sustainability related programs. He oversees and coordinates implementation of the Climate Action Plan policies. That includes projects and programs to reduce municipal and community generated greenhouse gasses. The objective of his job is to improve the Santa Barbara environment and to protect our community from effects climate change and to plan for those effects that we are unable to avoid so we respond with resilience. The goal is reducing the county's contribution to climate change.

## Sustainability

What are sustainability programs? The term has come to mean the policy, programs and practices set in place are able to continue indefinitely. Sustainability means a practice without burden to the environment or causing climate problems. Here are the climate-specific topics in Garrett's portfolio: climate adaptation, sea level rise, energy efficiency and green buildings, infrastructure and services, transportation modes and commute alternatives and environmentally friendly purchasing. In other words, his scope is anything that can make a positive difference in addressing climate change.

## Community Engagement

Community engagement is an important component of Garrett's work. This short statement means he represents the county in public meetings that involve climate and sustainability issues.

## County Interdepartmental Committees and Advisory Responsibilities

In this facet of his work, he is forming and working with the interdepartmental Sustainability Committee and the external Equity Advisory committee. A variety of County Departments implement and support the County's climate and sustainability goals. He manages and oversees professional and technical consultants engaged in planning and implementation services. Those services involve the administration and development of community and general plans, zoning regulations and environmental documents.

Garrett's job that requires him to work with a wide range of county offices and administrators coordinating his responsibilities for climate and sustainability. He has the catbird seat to watch and make input into all aspects of county climate efforts. The goal, again, is to improve SB County's impact on climate.

## Education and Professional Experience

Garrett received a BA in International Studies from UC San Diego. From there he moved on to SIT Graduate Institute, a private graduate institution in Brattleboro, Vermont. At SIT he received an MA in Sustainable Development. Next came a year in India working on humanitarian/community development issues. Following India, he interned and volunteered with local governments, non-profits and corporations. This involved more work in sustainability in Southern California.

Eventually Garrett was hired with the City of Santa Monica. He was the City's lead for climate and energy policy, programs and projects. And that led full circle to his current position as Climate/Sustainability Manager for Santa Barbara County.

## Recommendations to New People to the Field

If you are interested in a position like Garrett's, his pathway suggests elements to prepare yourself. The specifics that stand out are his BA degree with his major as it was not focused on climate or environmental issues. He followed with an MA highly related to his professional jobs in Santa Monica and Santa Barbara Co. The volunteer and internship work in sustainability, was of great value for professional contacts. It also provided experience and skills while he decided on the fit of the

job. Finally, those contacts and experience led to his first professional position in Santa Monica.

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### Garrett's Advice

Garrett says: "Nothing replaces hands-on experience. I cut my teeth volunteering and interning for local governments, preparing a greenhouse gas inventory report, developing green purchasing policies and implementing a zero-waste event. Even if they don't advertise it, local governments can always make use of free or low-cost labor, so put yourself out there.

CivicSpark is a great program to help recent graduates get started in the sustainability and local government field. I have supervised seven fellows through that program and highly recommend it.

Sustainability is becoming increasingly more intersectional with racial justice issues. The same historical, institutional and systemic issues that have created the climate crisis also created the racial inequities and injustices we see (or don't see) today. Additionally, sustainability is becoming more political. We can no longer afford to narrowly focus on technical solutions and not engage with the political nature of what our work ultimately entails if we are to truly be successful in staving off the worst of climate change."

## Refrigeration, How to Keep it Cool Without Killing the Planet!

Paul Hawken's edited book *Drawdown* provides details on the sources of carbon and the requirements for reducing or ending it. The Drawdown Project displays a weighted listing of climate solutions by sector. The Drawdown Project can guide your future career. Now there is a newer book, *Regeneration: Ending the Climate Crisis in One Generation* that will help sharpen your focus on career ideas. Let's get into refrigeration, how to keep it cool without killing the planet!

Consider the goal of "Drawdown." This goal is simply "reducing the amount of carbon in the atmosphere." This concise and clear goal will focus your career objectives if you want to work on climate issues. You can evaluate the contribution you make in your current job or your next job.

## Refrigerant Management, Keep it Cool!

At the top of the list from the Drawdown team is refrigerant management! That term refers to the lifeblood of the refrigeration machinery, the product that flowing in the tubes through the system to deliver coolness where it's needed. Much of that old HFC product is still up there even though the campaign to reduce it from hairspray, etc. was effective. We are also adding HCFs with the, "…capacity to warm the atmosphere (is) 1,000 to 9,000 times greater than that of carbon dioxide…" (Kosmos Journal). Therein lies, or rather, floats the problem! Still too much old refrigerant still in old machines and even some new ones.

On the other side of the world from where I sit, in Kigali, Rwanda, an international task force decided to phase out HCFs in October, 2016. President Biden moved to ratify that Amendment in 2020 (finally). So, this is a ripe solution to contribute your good work to. There are major drawdown effects in the offing. Here's where the Drawdown Project can guide your future career.

## Heat Pumps for Freedom

Bill McKibben has called for the production of 50 million heat pumps to be produced because of the Russian war on Ukraine! (BTW, these heat pumps must use the latest refrigerant to be effective throughout their lifecycle from factory to recycled point.) These must be better Heat Pumps to reduce our dependency on fossil fuels *without* releasing the (even the new stuff) potent HFCs into the atmosphere. That will help take away the funding of Putin and other fossil-based autocrats. Electrified air-based heat pumps heat and cool houses with one unit much more efficiently than furnaces and A/C. You can support this career by switching your home and business to heat pump space heating and A/C. Your contribution to bring a halt to these conflicts is to reduce use of all fossil fuels. A career commitment to the refrigerant management field is an amazing opportunity to make a difference!

NYT article reviews pertinent information about the choice of a heat pump for space heating taking into account local conditions. The *Colorado Sun* has a great article on the research on developing new AC for space cooling.

## 5 Major Applications in Refrigerant Management

**These are functions for working in the refrigerant industry.**

### Policy Development

1. Make sure the refrigerant policy in your area (city, county, state, province, country) meets the stipulations of the Kigali accord. Activists, Environmental Lawyers, Politicians and public policy managers are titles of those who will work on the policy level.

### Research Alternatives

1. Research on better refrigeration to replace HFC dependent units. Lawerence Berkeley National Laboratory estimates a need for 700 million new AC units by 2030 *Kosmos Journal*. The Kosmos article suggests, but doesn't say, there is an alternative refrigerant available. There is room for improvements in efficiency. Formulate replacement refrigerant can make these units as climate-safe as possible. Research how to safely remove and "deactivate" HFC from old AC and refrigeration units. Improvements will come with more refined research. This is also where the *Colorado Sun* article fits in describing the new efforts in making much better refrigeration units for space cooling.

2. There is an alternative from HFC altogether and that is ammonia! What goes around really does come around, again! This is where refrigeration began. Manufacturers used ammonia beginning in the 1850's for keeping stuff cool. Here's a modern quote from that same article: "Ammonia refrigeration is the most cost effective and energy efficient method of processing and storing frozen and unfrozen foods."

3. So HFC is a "synthetic" ammonia, which was developed to solve the a little problem of ammonia, it's poisonous! HFC doesn't kill people when it leaks (and it does leak), but it adds many thousands of times more GHG equivalents of CO2 when it does leak. And that is the huge problem for controlling climate change. That wasn't a known problem in 1913 when the first synthetic went to work chilling your produce and freezing your food and later providing A/C. Now the industry is making a safe move back to

ammonia and some better alternatives. Remember we are talking about refrigeration, how to keep it cool without killing the planet!

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## Business Opportunities to work in Refrigeration

1. With 700 million new AC units + the called-for heat pumps, that sounds like a full-employment mandate for AC technicians! This is all slated to happen before 2030! My 30-year personal experience with electric heat pumps confirms their efficiency. Heat pumps can be efficiently employed for space heating and cooling. The heat pump can replace fossil burning furnaces for the transition to electrify buildings.

2. Heat pumps are not just for building space heat at home, but whole community units like Glasgow, Scotland! Hot water heat pumps have made the scene with money saving efficiency: https://www.energy.gov/energysaver/heat-pump-water-heaters.

3. Old HFC units need to be kept as tight as possible while still in operation to avoid leaking HFC. At the **end of life, where 90% of emissions occur**, technicians need to be trained to do the required best practices to keep the HFC from entering the atmosphere.

4. Cap and Trade policy has made "search and destroy" of older HFC a profitable business! How to Save a Planet Podcast followed a pair of HFC **buyers** through their process. How large that industry could be is still developing. You can hear the podcast from Feb. 24, 2022, *Encore: Cold Hard Cash for Your Greenhouse Gas* from How to Save a Planet. It's still on their website.

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## Related Fields That are Compliment Refrigeration

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**Applying more insulation and weather proofing to millions of buildings is a major endeavor that a. uses less energy and b. keeps the heat in and/or out for our comfort. In this case we can employ those politicians, public policy specialists and then the architects, contractors and trades people. There are advances in window technology that can be retrofitted to some homes and buildings.**

### Using the Drawdown Project to Guide Your Future Career

Maybe you thought Climate Careers were going to be all about installing solar collectors and wind turbines? Yeah! That's where I thought we would head first! But the leading drawdown opportunities are much more interesting. Climate change has opportunities in much more disparate fields than expected. Find your career in these under reported fields.

## A Few Specific Contacts:

From The *Colorado Sun* referenced above: "The **Emerson technology** is brand new and going into a pilot demonstration phase," **Kozubal** (the researcher) said. **Blue Frontier**, a Boca Raton, Florida, startup backed by **Bill Gates**' **Breakthrough Energy Ventures**, is also using NREL patented liquid desiccant technology…

As you search online or otherwise, look for company names, contracts, individuals and specific technology to expand your search for possible employers and contacts.

### Summary of 16 Career Titles for Keeping it Cool!

To summarize, we have these careers:

1. Politicians at all levels of government
2. Public policy managers
3. Banking/Finance for housing efficiency loans
4. Researchers for refrigeration might be Material Scientists, Refrigeration Engineers with degrees in Civil, Mechanical & Electrical Engineering, Physicists, Chemists
5. HVAC  and refrigeration Technicians, installers, dismantlers and removers.
6. Safety engineers and inspectors.
7. Developer/Inspector for monitoring ammonia level in public areas.

8. Contractors
9. Activists
10. Environmental Lawyers
11. Trades people, electricians, building construction, insulation installing and more
12. Architects
13. Material Scientists for housing efficiency
14. Food technicians (rethinking food refrigeration needs and transportation)
15. Insulation Installers
16. Insulation Materials Developers

This is how the Drawdown Project can guide your future career. Look to their guide to see what fields are contributing the most to drawdown the carbon emissions. Recall, there 100 solutions and each has multiple career handles associated.

# Emerging Plastic Recycling 3.0 as a Career?

Dr. Gregg Beckham the National Renewable Energy Laboratory spoke as as a guest on NPR. He described research on, “The oxidation process (that) breaks plastics in the reaction into a blend of liquid chemicals. Then, that blend of products is fed to a strain of engineered bacteria that have been designed to be able to eat each of those chemical breakdown products, and use them to make a specified product.” This is the beginning of the Emerging Plastic Recycling 3.0 that could become your new career.

This is an exciting breakthrough that may lead to a whole new world of material made from junk plastic. Certainly we are all familiar with the plastic plague around the world from land fill heaps to ocean gyres. Progress on this persistent problem is an opportunity to be harvested.

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## Plastic Recycle Triangles of Doubt

So you may recall those little triangles with numbers in them on the bottom of plastic containers which indicated they were recyclable (plastic recycling 1.0, PR1.0). Like me, you probably faithfully cleaned them up and sent them off to be made into new plastics. Then we learned that scam was perpetrated on us by the plastic industry, subset of the fossil fuel business since most (99%) plastic is basically processed oil.

They wanted us to think old plastic was gloriously recycled into new plastics. Ugh! They even formed Keep America Beautiful and gave us the fake American Indian to blame us for the trash! (By the way, note that this highly successful campaign was the brainchild of an advertising company. Then we learned most of that plastic landed on the shores of other countries where it was dealt with poorly or not at all. More Ugh!

More recently (I’d call this one plastic recycling 2.0, PR2.0) we have a more limited group of plastics that are maybe really get recycled somewhere. Refer to the article tagged above for more from Green Peace.

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## Plastic Recycling 3.0

Dr. Beckham’s report on the research is a promising option that is developing, but far from ready for implementation. He described their test material as containing a very small quantity. Scaling up will determine if this is viable and if it is

economically feasible as well. This is an example of the long road of good science towards solving a long standing problem. Let's call this the Emerging Plastic Recycling 3.0.

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## Careers in Plastic Recycling

### Option 1: Plastic Recycling 2.0

Enter the current PR2.0 process where people are engaging in collecting, sorting and processing the plastic material and it is recycled into new products. Our local recycling company is involved in the collection part of this business. Some one else transports the material. Another level involves the processing of previously used plastic for re-use. Sales and marketing of that material connects the dots from basic recycled plastic to the new products. Your job could fit into this supply chain at any of those links. Recent evidence is this is mostly inefficient and a green washing by the plastics industry. Probably not your best idea for saving the planet…

### PR2.0 Problems Continue

In 1999, I bought decking from American Plastic Lumber (APL) that I used for a large deck at our house. After 25 years it still looks great and has degraded very little. I was told by the retailer at the time of purchase the product was recycled milk cartons. A 2014 law suit alleges that most that material APL used is not from milk cartons nor recycled. Ugh, again. I tried to influence many people my deck was recycled material, and might be good for them as well. More Ugh! So I got caught up in what is probably a lie that I perpetrated on others!

Many Plastics in the PR1.0 process were never possible to recycle as promised. In fact there is evidence the plastic industry developed those number-centered triangles to numb consumers from the plastic problem and to think those products went on to become something other than trash! What a grand success that was, something like having us believe cigarettes would improve our breathing! At the same time the beverage industry quit with the sensible recycling of containers for one way bottles and cans so of course they wanted us to feel responsible for the problems caused by that mistake. Of course this was another industry offloading

their problem for recycling to the public and creating a gigantic landfill trash problem that pollutes the whole planet! So BYOC, bring your own container, is the new byword of the present beverage consumer! Most PR2.0 materials are clearly not what the manufacturer said they were. The industry has a very poor track record!

Choose wisely when entering this part of the market to avoid being part of green washing. What once looked like a good solution to plastic pollution was heavily freighted with fraud and deceit.

**Option 2: Plastic Recycling 2.5. Nzambi Mattee**

In Kenya, Nzambi Mattee, a Kenyan engineer, has been turning old plastic into paving bricks for a years. Her process is perhaps best described as agnostic regarding types of plastics and maybe should be labeled PR2.5. Her process mixes a variety of collected plastic trash used to make attractive bricks, and pavers.

Conceivably, you could visit her facility and perhaps license the process. I have no evidence Mattee has ever licensed her process or wants to, but you might make a proposal to do this. Then you would start your own plant or work with her. She has a reported successful process from collection to product to sales. Scaling this viable process worldwide is a next step that doesn't seem to have emerged, based on a short search on the internet. Developing funding for that step could be a viable option.

**Option 3: Plastic Recycling 3.0**

Become involved in the research to develop a new bio-industrial process to recycle more kinds of plastics into many new products. How do you do that? You might contact Dr. Beckman. Depending on your current status you might propose some research collaboration if you are qualified. You might ask about post doc opportunities or graduate student status. Look at all those names on the articles with Beckman. Those people are currently involved in this research with him.

If that doesn't appeal to you, consider how else you would get involved. When you find Beckman is a chemical engineer Ph.D. from MIT you may wonder if you are ready for this. However, there is likely a variety of levels of

researchers and assistants involved as the process becomes the emerging plastic recycling 3.0 field. It will expand the numbers and types of people as they move to scale up.

**Option 4: PR3.0 Fund Raising & Testing**

PR3.0 is probably not yet ready for development, but if you are looking for a field at the beginning of a new surge in an industry, this might be it. How long? Listen to the researchers then talk to others who have helped launch something of this magnitude.

If you are not the research type, then consider early fund raising for your PR3.0 green job; speeding up the research. That might involve funding for Dr. Beckman or another lab working on similar efforts. Fund raising for early product implementation is another option. Investors want a proof of concept that viable products. So it will be some time before this takes off. Investors need to know the product is about to emerge from the lab with a time table for implementation. You might get involved in testing materials for possible end-product use. That will be necessary especially where industrial strength and endurance is a concern.

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## Monitoring Plastic Industry

Become involved as a monitor of the plastic industry. Journalists investigate and report on the plastic industry and plastic recycling specifically. Non-profit, Non Government Organizations also make it their mission to follow what is happening to plastics regionally and globally. If you are disillusioned by progress in plastics this is another option for a career that will help reshape the plastics industry.

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## Cradle to Cradle Design

Consider product design as your career. The circular economy is "setting the global standard for products that are safe, circular and responsibly made." The idea is compelling and a career in the field would prepare you to look at recycled plastic **now** using the viable PR2.0-2.5 materials. When/if newly recycled plastic (PR3.0) from bio-engineering processes become available that could be considered in your designs for products. Ethically handling products that are cycled repeatedly are fully sustainable and the goal of cradle to cradle design. Recycling is finding **any** secondary use for materials. Circular design means building products with the next

step planned from the beginning. This is the way our planet has always worked. New organisms start life, they live and then they are decomposed and ALL the components go to work in existing living organisms. There's not a step like plastic where our bad body parts keep floating around the oceans for millennia! The circular planned step is not a degrading of material, such as blue jeans to insulation. Instead, circular design should consider up scaling or similar level use for the next step and the final step is decomposing to create again, like biology does.

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## Conclusion Regarding Careers in Plastic Recycling

Plastic pollution is a very important problem to solve. The problem is costly as it requires huge energy outlay to transport and mega hectares of land to store in landfills. It also creates many problems for wildlife on land and at sea while continuing to create litter everywhere. The plastic industry is part of the petroleum industry. Because most of clothing is made from plastic: Approximately 60% of all clothing is made from synthetics, plastics derived from petroleum. Many million barrels(MB) of oil (342MB according Pirg) consumed annually to produce these synthetics. Greenwashing fossil fuel and petroleum includes plastic disinformation. If you choose to address the large problems related to plastic as your career you are looking at full employment with a long future. These problems are enduring and require systemic solutions.

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## Career Titles in Plastic Recycling

Chemical engineering researcher

Biochemist researcher

Fund Raiser for research and implementation

Product Designer

Marketing of recycled material

Production of PR2.5 material to new products

Collection of Plastics

# Solar Energy Careers Now

## Early Warnings

When I first heard about “overheating the environment” it wasn’t even called global warming. I misunderstood how fossil fired generators were producing an overheated planet. Maybe what I read was not accurate. Or maybe I just didn’t understand. The idea I had at the time was the fossil fueled generators were heating up the atmosphere through the heat they made to generate the power. Too bad that wasn’t the issue! We could fix that readily enough. Heat escape is simply unused energy. Fortunately solar energy careers now are a way to contribute to the draw down of the real problem, green house gas.

When I wrote a letter protesting the coal fired generator nearest me, I didn’t expect a response, none. After I forgot my letter, a representative showed up at my office at Virginia Polytechnic and State University (Virginia Tech, 1973) saying he wanted to talk to me about my letter and concerns. He was sent by the utility company to push back on my arguments, which he did. He quickly learned I didn’t understand the issue and went away promising they would, “do better.” I was pleased to have a little impact, but failed to understand the bigger issues at the time.

## Conclusions for Solar Energy Careers Now

Looking back at that unusual corporate response to a low key protest letter, I draw two conclusions. First, the fossil industry knew enough to be concerned about losing their social license to pollute our common air. Second, that industry knew the outcome of adding more carbon dioxide to the atmosphere would have grave consequences. The article about Shell Oil is one example among several the petroleum industry was fully aware of the misery they were causing and would be increasing significantly.

Given my address nestled among engineers and scientists at Virginia Tech, the utility company wanted to make sure I wasn’t breaking the story of how carbon dioxide contributes as a greenhouse gas in heating our planet. They hadn’t

considered I might be a psychologist instead of the tech wonk who might spoil their profits.

## Your Career In Solar Energy Careers Now

We now know the fossil fuels people knew **this** day was coming when the "rest of us" would know **more carbon dioxide means more heat** for the planet. They could have helped make the transition from fossil fuel based economy to alternative, non-fossil based energy. What that means is we have additional decades of green house gases including carbon dioxide that will reside for a long human history in our atmosphere. That is the burden we are dealing with as we try now to transition and face the huge calculated resistance of the fossil fuel industry to this necessary work. In this section we will look at the jobs in the solar energy field now. Additional career transition strategies are available will come later in the book.

You can choose to work on solar energy as your career from a wide range of skills. As usual, the hands-on people that put the solar equipment in place are the most obvious ones. Behind them are years of research and development that resulted in the first photo voltaic panels and now several generations of better ones. Right now innovations are coming to market that solve earlier problems and provide superior performance in solar PV technology. These efforts will continue. Solar PV is cheaper every year. It is also more flexible, literally, than ever and can be applied to more surfaces and there are new products never before considered.

## Rooftop Solar PV

Rooftop Solar has huge advantages since the real estate under the solar collectors is already dedicated to human use! Because of that more wildlife can retain their habitat rather than have it turned into solar farms or choking effluents. It means no new impermeable surfaces to divert rain water runoff. In addition it means very little electricity is lost in transmission between the solar PV panel and the user. I've been sold on this strategy for decades and I like to rant about the distribution advantages and the opportunity to create more resilient grid systems by using this

rooftop solar for the production of electricity. Then I remember, this is about **your** career options.

People install the solar equipment only after someone else sells the consumer or business on the product. Behind the installer are the business operations people with finance, advertising, accounting, banking and everyday office services.

One great thing about rooftop solar is the opportunities for small businesses to start in the field. There is also the advantage to the home owner to make decisions about stopping the fossil burn right at home. This is one of the few places as a consumer where you have a direct opportunity to make a difference on the energy that powers your life! When it comes to regional or even neighborhood power outages, local solar power and batteries can be important for individual health and convenience.

Charging stations for electric vehicles (EVs) can take advantage of solar panels at the site for all the same reasons we want them at our homes.

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## Solar Farms

With solar farms finance is large business. Either a utility project or a private business venture make the investment. Either way, distribution of power to the grid is a major part of the installation. Where wind or solar farms to far from an existing high capacity grid, new transmission lines are in order. In Oregon last week I saw ads seeking land near large transmission lines for solar farms. Roads are another infrastructure necessity that has to be in place or put into the mix.

Solar farms require land acquisition or leases and permits for the solar panels and the transmission lines. Siting a solar farm requires an analysis that may involve meteorological data and consideration for wildlife and plant impacts along with other environmental concerns. Contracts are drawn up for the term of land use.

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## Solar Farms + Ag = Agrivoltaics

So what if you wanted to use ag land to put up a solar farm? Is this a good thing or is it reducing our valuable stock of food production land? Could you mix the two and come up with something viable? Or two things viable? Check out this agrivoltaics system here at Auburn University. The fanciful equation: Sheep + solar

= Love is about using sheep for keeping the weeds down around solar farms, another way to combine two profit centers.

So what's the career called here? Are you a agrivoltaic farmer? I suppose. Does it matter?

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## Solar Hot Water

Solar Hot Water (SHW) means putting the sun directly to work. No need to create electrons. No copper required. For consumers with small budgets, the pay back on a simple, passive, solar hot water system is more advantageous than PV. Passive systems require no energy besides the sun once installed. Installers need skills in plumbing and construction. If you have sun exposure on your roof or in your yard this works elegantly for household water heating, or even space heating for homes and offices or heating swimming pools. You can contribute to the careers of installers by having it installed! Selling SHW should be easier than PV as a smaller area will provide significant hot water and the break even period on investment is faster. The technology is in use world wide but remains underutilized.

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## Solar Research

While new materials are in production for solar PV and solar hot water use, the research for improving efficiency and design capabilities will continue for material scientists, chemists and physicists. Research is heating up on solar energy use for solar ovens for industrial level heating for metallurgy and cement manufacturing. Such applications promise to replace large fossil fuel powered systems for the cement industry, a major consumer of energy.

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## Battery Back Up

Battery back up has gone from deep cycle RV batteries that we used to use for trolling for bass or while camping in the travel trailer. Now there are industrial-sized installations of high tech batteries that are stretching the wave of energy from solar and wind. Research proceeds at a furious pace with material scientists, chemists and others improving the efficiency and usefulness of batteries for home and industrial use.

Batteries add resilience for the grid during high demand periods, or when grid systems are damaged by fires, earthquake, or storms. Batteries can maintain power for critical health requirements. In addition, batteries from EVs are becoming a part of the energy mix that will serve both homeowners and utilities.

The battery manufacturing, installing, financing and raw material mining and procurement are all possible career sites.

Non-battery back up options are possible as well. Anything that can store energy has potential, using that solar energy in the sunny periods and drawing it back when the sun is down or clouds occlude the collectors. Creative new applications including gravity systems and stored energy like compressed air will be rewarded as we move forward with more solar energy every year.

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## Solar Business Operations

Behind all the specialists from researchers to installers, there are many required workers to keep it all moving ahead. Consider jobs in marketing, advertising and sales of products, power and services. People are needed for land management and acquisition. In advance of new solar farms, public relations and public affairs people provide communities and utilities or corporations opportunities to settle concerns and issues about siting the projects and transmission lines.

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## Social Justice and Solar Energy Now

In particular, there is a huge potential for creative ideas for social justice. Funding incentives could make solar PV and solar hot water available to low income homes. Here's a proposal to make more rooftop solar available to low income families, coupled with home insulation projects would result in financial savings due to decreased fossil energy costs. In my county there is a proposal to purchase natural gas powered generators for emergency communications which could well be replaced before they start installation with solar energy.

Unlike gas powered generators, the maintenance is much lower. The power can be used daily to defray the cost of the solar installation. Located on the rooftops of low income families and small local businesses could benefit those owners in payment for real estate or free or low cost solar.

Solar community organizers find places and programs to benefit Black, Indigenous and People of Color (BIPOC) and remove polluting fossil based generation for increased health benefits as well. In the best cases transition to solar, wind and other alternative non-fossil energy will remove low income neighborhoods from high levels of air pollution as local electrical generation is moved out of their communities.

Community organizers close the gap on cost of heating and air conditioning for low income homes in this way. Incentives for early adopters for solar went to people, like me, who could afford the cost after the incentive. Solar this time needs to be aimed at those living where there are the fewest trees and the most heat because the people of color were red lined into the hottest urban areas. Federal funds helped millions of white folks into better homes. Now it's time to improve the lives of everyone and improve our planet with better infrastructure with solar energy careers leading the way.

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## Solar Energy Job Titles

1. Materials scientist
2. Physicist
3. Chemist
4. Electrical Engineer
5. Solar Business Owner
6. Miner
7. Mining engineer
8. Production Manager
9. Electrician
10. Installer
11. Architect

12. Public Policy analyst and legislative consultant
13. Community organizer for social justice solar
14. Meteorologist
15. Public Affairs/Public Relations Officer
16. Marketing and Sales People
17. Banker
18. Business operations

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## Social License

Finally, let's come back to social license for fossil fuels. Social license is society allowing an industry to do business. When you have that license, the people approve of what you do, or neglect to bother that you operate in your location. When you abuse that license, people protest. Then they sue. And they demand legislation to put an end to your business or to modify it dramatically. Tobacco lost their social license. They lied about the effects of their product for years. Propaganda and ads distracted from the truth about cancer and tobacco products. The tobacco industry still operates, but with shackles and chains.

Fossil fuels took the tobacco play list and emulated their every bad move. In this case, we need energy. We don't need tobacco, it was never necessary for a good life. Fortunately there are alternatives to replace fossil fuels with renewables. You can play a significant role in this transition with a solar energy career now.

# Profile of a Climate Scientist
## Dr. Daniel Swain, Ph.D.

Yes, that is a legitimate job title! Daniel Swain is affiliated with UCLA, The Nature Conservancy and National Center for Atmospheric Research. It's a long path to arrive at this doorstep as the Ph.D. is the usual union ticket. I found years ago many people don't know the steps required or how many options there might be when the "Ph.D." is used. First it takes a college bachelor's degree, in this case probably a BS in a hard science, but I've known a Ph.D. in physics who came from a humanities, BA, background, so the path can be unique. In this case we have someone with a BS in Atmospheric Science at UC Davis and then a Ph.D. in Earth System Science from Stanford. I notice there is no master's degree in between. Grad programs. That varies and so do people, so it would be possible to acquire a master's degree on the way to a Ph.D, and the MS might come from a third school. Its' not too common to have undergrad and grad degrees from the same institution.

I quote Dr. Swain, "The paths into climate science are pretty diverse–many (if not most) of my colleagues **do not have** atmospheric science undergraduate degrees (most have degrees in some physical science or engineering field). Physics degrees are not uncommon at an undergraduate or even graduate level, but at the Ph.D. level the more relevant question would be one's topical focus e.g., two people with a Ph.D. in physics could have dissertations on topics from subatomic particle dynamics to the optical behavior of clouds. That said, I work with climate scientists with almost every conceivable educational background–but formal degrees somewhere in the physical science realm are by far the most common."

This description helps us define the educational requirements. If you are in this process somewhere, keep your momentum up and start looking for the folks doing what you want to do. Go visit with them, look for internships with them and start on your own research projects. The more you know how your actual professional work will feel, the more personal this becomes. That leads to commitment and follow through.

Let's describe the path from another field for one to become a climate scientist. If you have an MS and have been working, a Ph.D. might be the next step.
It's not too uncommon for MS grads to change disciplines for Ph.D. work, so apply where you find programs of interest. Having seen cross-discipline hopping among a few friends and some only at a distance, I know this is possible, like the Ph.D. in physics mentioned above. Cross-discipline research with a fellow researcher in the

field is often the way this begins, maybe without premeditation to switching fields. Sharing information for projects is another beginning. I've known some who landed a post-doc year in the new field early in their careers.

Supposing you want to make a contribution to a field where your education doesn't match the usual profile means doing some investigating with people in the field. You identify someone, best of all someone you already know. Second best? Have someone you know introduce you to a person doing the work you want to do. Ask about sharing work, data, ideas and possibly spending some time in the workplace. Be prepared to explain how your expertise will add a dimension to the field you plan to break into.

These are US universities and some inside information on the pivot points while in or between undergraduate degrees and graduate degrees. This may be significantly different in other universities around the world. It would be best to go to the specific department of interest and begin asking questions about qualifications generally expected for matriculation (to begin studying).

# Green Banks & Climate Finance

Contrary to what the name might suggest, there's no actual "Green Bank of Nova Scotia." Instead, the term "green bank" refers to a functional approach that banks are adopting to address environmental and climate issues. Take Scotia Bank, for example — they've established a dedicated division for Green Bonds and Sustainable Finance. This shift isn't unique to Scotia Bank; many financial institutions are promoting their role in climate finance and sustainability. Or they are offering more products that appeal to those with a green orientation. But how often do people see themselves as part of this change? Banking may not be the first industry that comes to mind for climate careers, but it's a prime example of how traditional fields are evolving to meet global challenges and social demand. For those seeking a career with impact, green banking offers a compelling path for driving the transition toward a sustainable future.

A change in commitment to climate issues could make a huge career difference without changing careers. Is that an option within your trade or profession?
Next, thanks due to Bill McKibben's New Yorker article, I found Climate First Bank. The bank is I/O which I learned is "in organization" and not "In/Out" as in computer lingo. Now the bank is open and operating in St. Petersburg, Florida. The founder and CEO, Ken LaRoe is operating an impact-based financial institution based on his advocacy for the environment and values-based businesses.
Then I saw that LaRoe's previous bank was named First Green Bank. Thus, I was proven completely wrong, that there is a bank named the Green Bank. I decided to double down on my ignorance to see about other green banks. Immediately I found "The Connecticut Green Bank is the nation's first green bank." They have been in business since 2011.

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## Green Bank Business Model

When you hear the term "green bank," you might assume it refers to financing eco-friendly projects for businesses and individuals — and you'd be on the right track. But there's more to it. According to the Green Bank Network, "A Green Bank is a publicly capitalized entity established specifically to facilitate private investment into domestic low-carbon, climate-resilient (LCR) infrastructure and other green sectors such as water and waste management." You probably noticed the word fossil doesn't appear in this definition. That might be an interesting quest to find out about their stance as it would seem the green banks would not be investing in

fossil extraction, transport or other related industries! I think you should drill down on that question. If the bank doesn't specifically say they screen out fossil investing then I would want to hear about that before I started to work there.

These banks go beyond the usual bottom line of profits, measuring success in more meaningful ways: emissions reduced, jobs created, and private investment mobilized — alongside their own financial returns. Members of the Green Bank Network span the globe, with national entities in Australia, Japan, Malaysia, Switzerland, and the United Kingdom. In the U.S., states like California, Connecticut, Hawaii, New Jersey, New York, and Rhode Island have launched their own green banks, with additional efforts emerging at the county and city levels. Compared to the "business-as-usual" approach of major lenders like JPMorgan Chase, Citibank, and Wells Fargo — historically some of the biggest backers of fossil fuel projects (as Bill McKibben points out) — green banks offer a refreshing shift in perspective. They represent a growing movement to finance a more sustainable future, where capital fuels climate solutions, not climate problems.

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## Offering Alternative Green Investments.

If you're eyeing a career in finance, green banks offer a fresh, purpose-driven alternative. Imagine channeling capital into climate-friendly projects or offering sustainable investment options — a far cry from the old guard clinging to fossil fuel-heavy portfolios. Platforms like FossilFreeFunds.org make it easier to identify truly green investments. You could also join firms like Green Century Funds, or take a role as an analyst or investment advisor with mainstream giants like Fidelity, where sustainability-focused portfolios are growing.

There's also power in shareholder advocacy. Organizations like As You Sow push for corporate accountability, aiming to *"create lasting change that benefits people, planet, and profit."* Their campaigns have led to real concessions from fossil fuel corporations — a testament to the influence of engaged investors.

If you want to know which banks are on the positive side of climate action, the Rainforest Action Network's annual *Banking on Climate Chaos* report ranks the world's 60 largest banks. Spoiler alert: The numbers aren't pretty. Over a recent five-year period, these banks poured nearly $4 trillion into fossil fuel financing. While 2020 saw a pullback of $73 billion — less than 10% of 2019's total — it's clear that much work remains.

Notably, none of the emerging green banks appear on this list. They're not among the 60 largest banks… yet. But with their focus on sustainable finance and climate-positive investments, they're shaping the future of the financial sector in ways the "old guard" can't afford to ignore.

**Researching the Field**
These specific organizations represent examples to start your research as you consider a green banking or investing career. Do your research and investigate how much your target employers walk the talk before you jump aboard! This is a field that is dynamic and there will be some "green stain" where the banks or funds won't match your ideal for a climate positive career.

**Getting Started from the Student Ranks**

Your education in business of any kind can be valuable towards entering green banking. I found that banks vary and some hire from almost any major. Be kind to yourself and take an accounting sequence or bookkeeping regardless of what you major is or take it after your degree. I didn't and I wound up wrestling a sizable budget and I wasn't prepared. As much as I didn't want to be a business guy, it was more painful to try to understand my budget without the formal introduction to it. Internships at any financial institution or bank is a good start, it doesn't have to be a green bank. Experience hones understanding of the career options and makes clear if you like being with the people involved. Check your university for internship opportunities.

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## Who do the banks and Investment Funds hire?

Auditor

Banker (duh)

Investment banker/advisor

Loss Recovery Manager

Bank teller

Collector

Accountant

Research Manager

Credit analyst

Anti-Money Laundering specialist

Loan officer

Bank manager

Green Investment Analyst

Loan Processor

Trust Asset manager

Sustainable Finance manager

Financial analyst

Financial advisor

Racial Justice Officer

Treasurer

Bankruptcy specialist

Mortgage consultant

Energy and Climate Researcher

Investment Representative

Asset manager

Underwriter

# International Climate Policy Career

## How do you get from where you are now to a position where you affect policy and make decisions at the international level?

This question arose during feedback from a lecture I gave at the University of California Santa Barbara to Environmental Studies students. To address it, I've outlined a quick guide to entering an international climate policy career. While this path can be complex and lengthy, there are practical first steps to get started. The actual job titles listed here are key top positions. Entry level and internship positions in these organizations are a possible starting point.

## Work History of Policy Leaders

Begin by studying the career paths of those in the field you admire most. For instance, UN Secretary-General António Guterres gained prominence for his strong stance on climate action, emphasizing the importance of social justice in addressing climate change. His leadership highlights the need for bold interventions and holding governments accountable for their actions—or inaction. While you may not aim for a position as high-profile as his, analyzing his trajectory and others like him can provide invaluable insights.

Keep in mind that career paths are as unique as the individuals who walk them. Identify recurring themes or strategies in their journeys that could align with your own aspirations.

## List of Leaders in International Climate Policy

Here is a list of influential figures to begin your research. By exploring their career trajectories, you might discover opportunities or pathways you hadn't considered. Many of these roles are political, requiring navigation within governmental or institutional frameworks, and graduate education in public policy or international relations may be advantageous. You will find current leaders have a wider range of education beyond this narrow scope. Some educational institutions carry much higher weight in making entry into the most high impact positions on this list.

### Notable Leaders and Their Positions:

- **Simon Stiell** – Executive Secretary, United Nations Framework Convention on Climate Change (UNFCCC)
- **Frans Timmermans** – Executive Vice-President, European Green Deal, European Commission
- **Inger Andersen** – Executive Director, United Nations Environment Programme (UNEP)
- **Steven Guilbeault** – Canadian Minister of Environment and Climate Change
- **Pete Buttigieg** – United States Secretary of Transportation
- **Michael S. Regan** – Administrator, United States Environmental Protection Agency

**Note:** Always verify details during your research. Expect names on this list to change rapidly as many are elected or government appointees that change with administrations.

**Additional Leaders and Organizations**

Beyond government roles, influential figures in NGOs, think tanks, and advocacy groups also shape international climate policy. These organizations offer alternative entry points and perspectives:

- **World Resources Institute (WRI)** – Ani Dasgupta (President and CEO)
- **Greenpeace International** – Mads Flarup: Interim Executive Director.
- **Project Drawdown** – Leadership varies by project but focuses on practical climate solutions.

**Next Steps:**

Research these organizations to uncover leadership roles, internship opportunities, or volunteer positions that resonate with your goals. Networking within these organizations can open doors to policy-making roles.

## Training and Educational Pathways for international work

**Training Programs:**

Consider graduate programs at prestigious universities around the globe. Here are some of the most respected graduate programs that prepare leaders for international policy careers. My list has an American bias and few in Asia since the American are ones I know about and was able to access most easily:

**United States**

1. **Harvard University – John F. Kennedy School of Government (Harvard Kennedy School, HKS)**
    - **Degree**: Master in Public Policy (MPP), Master in Public Administration (MPA)
    - **Focus**: Public policy, international development, and global affairs.
    - **Reputation**: Known for producing global leaders, including heads of state, diplomats, and senior policymakers.
2. **Princeton University – School of Public and International Affairs (SPIA)**
    - **Degree**: Master in Public Affairs (MPA), Master in Public Policy (MPP)
    - **Focus**: International development, economic policy, and foreign affairs.
    - **Reputation**: Renowned for its emphasis on quantitative analysis and preparation for leadership roles in international organizations.
3. **Georgetown University – Walsh School of Foreign Service (SFS)**
    - **Degree**: Master of Science in Foreign Service (MSFS)
    - **Focus**: International relations, diplomacy, and global development.

- **Reputation**: Located in Washington, D.C., offering proximity to global institutions like the World Bank and U.S. State Department.

4. **Johns Hopkins University – School of Advanced International Studies (SAIS)**
   - **Degree**: Master of Arts in International Relations (MAIR)
   - **Focus**: International economics, global politics, and regional studies.
   - **Reputation**: Known for its focus on economics and its global campus locations (Washington, D.C., Bologna, Italy, and Nanjing, China).
5. **Columbia University – School of International and Public Affairs (SIPA)**
   - **Degree**: Master of International Affairs (MIA), Master of Public Administration (MPA)
   - **Focus**: Global development, public policy, and international security.
   - **Reputation**: Offers access to global institutions and New York City-based international organizations like the United Nations.
6. **Stanford University – Freeman Spogli Institute for International Studies**
   - **Degree**: Master of International Policy (MIP)
   - **Focus**: Cybersecurity, international relations, and global security.
   - **Reputation**: A growing leader in technology and policy at the intersection of technology and global affairs.
7. **Tufts University – The Fletcher School of Law and Diplomacy**
   - **Degree**: Master of Arts in Law and Diplomacy (MALD)
   - **Focus**: International diplomacy, global security, and human rights.
   - **Reputation**: One of the oldest and most prestigious schools for diplomacy and foreign affairs.

**Europe**

8. **University of Oxford – Blavatnik School of Government**
    - **Degree**: Master of Public Policy (MPP)
    - **Focus**: Global public leadership and governance.
    - **Reputation**: Trains government officials and leaders worldwide, drawing on Oxford's history and global network.
9. **University of Cambridge – Department of Politics and International Studies (POLIS)**
    - **Degree**: Master of Philosophy (MPhil) in International Relations and Politics
    - **Focus**: Research-driven program for policy analysis and academic careers.
    - **Reputation**: Known for its strong academic focus and research opportunities.
10. **London School of Economics and Political Science (LSE) – School of Public Policy**
    - **Degree**: Master of Public Administration (MPA), Master of Public Policy (MPP)
    - **Focus**: International development, economic policy, and public administration.
    - **Reputation**: Globally renowned for its focus on economic and social policy analysis.
11. **Sciences Po – Paris School of International Affairs (PSIA)**

- **Degree**: Master in International Security, Master in Human Rights, Master in Global Governance and Diplomacy
- **Focus**: International security, human rights, and sustainable development.
- **Reputation**: As France's premier policy school, it attracts students from all over the world aiming for careers in European and global institutions.

12. **Graduate Institute of International and Development Studies – Geneva, Switzerland**
    - **Degree**: Master of International Affairs (MIA), Master of Development Studies (MDev)
    - **Focus**: International affairs, humanitarian action, and development.
    - **Reputation**: Located in Geneva, a hub for global organizations like the United Nations and the World Trade Organization (WTO).
13. **European University Institute (EUI) – School of Transnational Governance (Italy)**
    - **Degree**: Master of Transnational Governance
    - **Focus**: International governance and policy analysis.
    - **Reputation**: Focuses on European and international governance, offering placements within EU institutions.

**Asia-Pacific**

14. **University of Tokyo – Graduate School of Public Policy (GraSPP)**
    - **Degree**: Master of Public Policy (MPP)
    - **Focus**: Policy studies, international development, and global governance.
    - **Reputation**: Japan's premier policy school with connections to Asian development initiatives.

15. **National University of Singapore (NUS) – Lee Kuan Yew School of Public Policy (LKYSPP)**
    - **Degree**: Master in Public Policy (MPP), Master in Public Administration (MPA)
    - **Focus**: International development, Asian policy studies, and governance.
    - **Reputation**: A key institution for students interested in working in Southeast Asia and global governance roles.
16. **Australian National University (ANU) – Crawford School of Public Policy**
    - **Degree**: Master of Public Policy (MPP), Master of International Affairs (MIA)
    - **Focus**: Asia-Pacific policy and public sector leadership.
    - **Reputation**: A leader in Australian and Asia-Pacific regional policy analysis.

**Global/Multiregional**

17. **HEC Paris / École Polytechnique / Sciences Po / ENS – Paris School of International Affairs**
    - **Degree**: Joint programs with Sciences Po, focusing on economics, policy, and diplomacy.
    - **Focus**: International relations, policy, and finance.
    - **Reputation**: A collaborative effort to train future European and global leaders
18. **United Nations University – Institute for Environment and Human Security (UNU-EHS)**
    - **Degree**: Master of Science in Geography of Environmental Risks and Human Security
    - **Focus**: Humanitarian policy, climate risk, and disaster management.

- **Reputation**: Prepares students to work within United Nations agencies and humanitarian organizations.

19. **International Institute for Management Development (IMD) – Lausanne, Switzerland**
    - **Degree**: Executive Master of Public Administration (EMPA)
    - **Focus**: Leadership development for policy and public administration.
    - **Reputation**: Prepares leaders to take roles in multinational institutions and international organizations.
20. **KDI School of Public Policy and Management (South Korea)**
    - **Degree**: Master in Public Policy (MPP), Master in Development Policy (MDP)
    - **Focus**: Development economics and public policy with a focus on the Global South.
    - **Reputation**: Strong connections to South Korean development projects and Asian Development Bank initiatives.

**Specialized Institutions**

21. **University for Peace (UPEACE) – Costa Rica**
    - **Degree**: Master of Arts in Peace and Conflict Studies
    - **Focus**: Conflict resolution, international peace building, and development.
    - **Reputation**: Sponsored by the United Nations, UPEACE prepares future diplomats and peace negotiators.
22. **Clingendael Institute – The Netherlands**
    - **Focus**: Diplomatic training and international relations.
    - **Reputation**: Trains diplomats from all over the world and offers short-term executive education for policy leaders.

These programs are recognized globally for their ability to produce the next generation of policy leaders, diplomats, and development experts. Each school provides unique opportunities, often based on regional focus, program design, and global network access.

**Field Experience:**
Organizations like the Peace Corps or USAID can provide international exposure, especially when combined with networking efforts targeting NGOs and diplomatic circles.

**Paid Internships:**
The U.S. State Department and similar entities offer internships that, while not always directly related to climate issues, can provide critical experience and contacts.

**The Role of Finance in Climate Policy**

Financial institutions wield significant influence in international climate decisions. Exploring roles in organizations like the Green Climate Fund or sustainable investment divisions within major banks can lead to impactful careers.
Examples include:

- **European Investment Bank (EIB)**: Committed to climate financing.
- **Green Climate Fund (GCF)**: Supports climate initiatives in developing countries.

Keep in mind the dual role some financial giants play, such as BlackRock, which invests in both renewable energy and fossil fuels. Investigating these dynamics can be both enlightening and career-defining.

## Conclusion

Ask everyone in your network who they know in international climate policy, or who might have connections. The pathway to an international role often begins with a single conversation. Stay curious, resourceful, and persistent—you'll be surprised how quickly doors open.

**Suggestions for Expansion:**

- Include examples of successful international climate agreements and the roles individuals played in shaping them (e.g., Paris Climate Agreement).
- Highlight emerging fields like climate tech policy or nature-based solutions.
- Discuss the increasing role of private sector partnerships in shaping policy.

# Clean Energy at Old Fossil Power Plants!

## Transitions and Industry Shifts

Transitions are often challenging and disruptive. People lose jobs. Cities lose factories and stores. Suppliers lose customers. Industries like textiles, footwear, and, more recently, coal, have all faced seismic shifts that affected their communities and personal livelihoods. While doors may close, new ones often open—but not always for the same people who were displaced. This reality is particularly evident as oil companies resist relinquishing their dominance over the energy supply and the second Trump administration has throttled funds for alternative energy, in some cases funds that were already dispersed have been clawed back.

Historically, transitions have seen older industries like textiles and shoemaking give way to high-tech sectors. Similarly, the clean energy transition at former fossil fuel power plants offers a path for revitalization, breathing new life into old industries. Decommissioned nuclear power plants present another opportunity for reinvention. This time, there's reasonable hope that more doors will remain open to those displaced by change, offering broader access to new opportunities.

Past transitions have required new skills, updated knowledge, and a reimagined context for understanding new technologies. Few individuals successfully moved from the old industries to the new, often because the new context was so different from the one they had known. As we face the shift toward clean energy, the challenge will be to create pathways that help more people cross the threshold into emerging industries.

## New Technology Positioned at Old Fossil Power Plant Sites

Worldwide, new geothermal drilling methods have the potential to reinvigorate the 8,000 to 10,000 existing power plants previously powered by fossil fuels or nuclear energy. This shift could enable the generation of clean energy at locations that were once dependent on non-renewable sources. Unlike past constraints, the promise (not yet a reality) is  power is now possible in areas far from traditional favorable installations.

At MIT, Professor Paul Woskov has developed an innovative drilling method using a microwave-emitting device called a gyrotron. While it may sound like science fiction, this technology could accelerate the shift to clean energy. The millimeter-wave gyrotron has the potential to drill far below the depths accessible by standard extraction technology, creating access to geothermal heat deep underground. Other innovators are also engaging in deep, hot rock drilling efforts with similar goals in mind. These advancements offers a promising path to clean energy at old fossil plant sites.

This opportunity is not a certainty, but being ready for such transitions requires close attention to emerging technologies. For engineers seeking to shift from fossil fuel jobs to new green opportunities, these developments represent a potential pathway. Currently, the number of available positions may be small, but future growth could be significant as these initiatives scale up.

For those outside the industry who want to make a meaningful impact, there is also an opportunity to invest in the development of deep hot rock drilling technologies. While this type of investment carries significant risk, it also holds the potential for substantial returns. Investors play a vital role in supporting groundbreaking innovations like the gyrotron, which could redefine energy production at former fossil fuel sites. For individuals seeking to contribute to the clean energy transition from a different field, this form of investing represents a chance to support a high-impact, though risky, forward-looking initiative.

Assuming the industry develops as anticipated, many jobs will emerge as old power plants are refurbished and prepared for geothermal drilling on-site. This process will convert fossil-fired steam systems into clean energy sources. The necessary workforce will include roles for technicians to operate and maintain the new infrastructure using equipment and resources already on site, albeit with refurbishing for maximal output. Significantly, many of the required skills will be identical or highly overlap with those used in fossil fuel, nuclear and oil industry operations, making the transition more feasible for workers from those sectors.

Unlike fusion power, the deep, hot rock drilling technology all exists and is known to work. So there is not foreseeable delay that requires the development of new technology for deployment. What is required is refining the technology and gaining

experience in deployment to achieve success. Funding has been collected and demonstration test sites are under development and in operation.

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## Latest Developments In Geo-thermal Energy

There's another twist in this story for, horizontal drilling for geo-thermal sources closer to the surface. Deep Earth Energy CEO Kirsten Marcia reports how her company is able to tap into sources of geo-thermal energy in Canada's portion of the Bakken formation. Traditional geo-thermal development is also gaining notice worldwide as an alternative to fossil fuel. The broad geographical review article *Meet the Geothermal Champions* by Hiroko Tabuchi (March 28, 2023) in the *New York Times* points to additional geo-thermal power installations.

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## Names to Watch in New Industry Opening a Climate Career

The research component involved now: MIT's Plasma Science and Fusion Center (PSFC). The research faculty person: MIT's Paul Woskov.

The company planning to develop well using gyrotron technology at old power plants: Quaise Energy. CEO and Co-Founder: Carlos Araque

First Locations: "Quaise plans to start testing its drills in fields near Albuquerque, New Mexico, and Bend, Oregon," according to Bloomberg.

Also Deep Earth Energy CEO follow Kirsten Marcia for horizontal drilling of geo-thermal wells.

As this develops and these pioneers gain success, other companies will be competing for a share in the transition industry. So the key here is to keep watching for developments of geothermal energy, gyroton research, gyroton production, acquisition of old power plants formerly or still powered by fossil fuels. Geo-thermal energy plants could be viable anywhere in the world as this technology is portable to wherever energy is needed. Social/political resistance to construction should be much less than with (fission) nuclear installations with the radiation concerns and even wind and solar for their large land footprints. Finally, the 24/7 production of clean energy is a compelling competitive edge for the new

technology even with all it's high risk features of very deep drilling. If successful, it will be interesting to see the competition with our current crop of alternative energy sources.

Chemical, cement and steel industry applications will also be sites desirable to develop with the geothermal plants. Instead of trucking or piping fossil fuels to locations where energy is needed, this nascent industry intends to land on the site with the energy coming up directly from far below. Of course, this is clean energy at old fossil power plants!

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## How Soon Clean Energy at Old Fossil Power Plants?

**Quaise** started field testing in 2024. That will provide proof of concept over the next few years. By 2026-28 they intend to have the system working in the field creating clean energy. Thereafter, new geothermal energy siting could be a matter of economics and need.

**Deep Earth Energy** is continuing with their drilling now. Soon they will install the first 25 Megawatt system to be followed by a 200+ megawatt deployment.

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## How Likely is Clean Energy at Old Fossil Power Plants?

The company and the people named here are extremely bullish on this. Of course they are! Investments are based on their enthusiasm and their initial trials and demonstrations. Compared to fusion? This is likely to develop much faster than any application of fusion as a reliable power source. Drilling for extraction is a mature technology. Mating the two is extending the reach of traditional drilling with the millimeter wave producing gyroton. The new problems are all engineering and economical. No scientific break through is required, nothing new has to be invented or developed.

The serious questions are: Will it work at all? Then will it scale? Will it get funding enough to lift off? As of the first edition of this book Quaise has reported $75M available for the next phase. Maybe a billion is required to retrofit a major power plant. Compare that with building a new fission plant. Fission plants traditionally have huge cost and time over-runs. That makes the Quaise model seem reasonable. Scaling and funding questions are not ones I can answer, but you can watch as this develops. You can prepare for a transition when the time is ripe.

## What are the Problems for Geothermal Energy?

Sammy Roth, in his *Los Angeles Times* column, *Boiling Point* wrote about the toad whose toe is all over a large geo-thermal installation's progress plans. Ormat Technology's plan for a Nevada geothermal plant has come to screeching stop. They await the ruling on the possibly endangered critter. Seems Ormat might benefit from the technology of the Deep Earth Energy. Then they could tap into that geo-thermal location while leaving the toad to toast peacefully in the hot springs. I make light of a serious business, but this highlights another problem and problems ALWAYS mean job potential. Someone needs to solve the problem! In a case like this where millions are involved, the person with the solution will be highly rewarded.

Quaise addressed other concerns for geo-thermal installations here. That includes the comparison with fracking as it relates to stimulating earthquakes and water pollution. There may be room for geologists/seismologists to evaluate potential seismic hazards. Those concerns involving enhanced geo-thermal systems (EGS) which was a question on the mind over at *Fast Company* too. How much water volume is required to keep a twelve mile deep geo-thermal well working? Is it so significant so that dry land installation will need to insure a continuing source before beginning the process? Will cooling require alternative innovations for EGS?

## Environmental Fixers

Above, I brought up the Ormat problem and suggested the Deep Earth Energy folks might have the solution. Some one has to work out a variety of issues. 1. Real feasibility: What would it take to relocate the Ormat project. AND then implement the Deep Earth Energy technique that is still in development? This is a technical question for engineers and scientists. 2. What are the costs of such a change in plans? 3. What other compromises are needed? Answers to these questions are supplied by people at work doing professional problem solving.

We are seeing more resistance to clean energy projects. Some of the resistance is purportedly funded by the fossil fuel industry to slow down the competition. Some resistance is truly the conservation/environmental community rightfully trying to protect our fellow (non-voting) travelers on this planet, toads and such. People who

can come up with solutions and compromises are going to be needed for these deeply seated problems. Some will be the new Environmental Fixers from public relations and community relations.

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## Who is Needed?

### Engineers

Engineers are often most needed at the inception of the developing technology and early installation planning and development.

1. Geothermal Engineer: A geothermal engineer designs and develops geothermal power plants. Supervises the drilling, testing, and operation of geothermal wells.

2. Drilling Engineer: A drilling engineer is responsible for planning and supervising the drilling process. Ensure wells are drilled safely, efficiently, and effectively.

3. Electrical Engineer: An electrical engineer designs and maintains the electrical systems that convert the heat from geothermal wells into electricity.

4. Electrical and Electronics Engineer: Electrical and electronics engineers design and develop the electrical systems. Systems that convert the heat from geothermal wells into electricity.

5. Mechanical Engineer: Mechanical engineers design and maintain the mechanical systems in geothermal power plants. That includes pumps, compressors, and heat exchangers.

6. Chemical Engineer: Chemical engineers design and develop chemical processes that use geothermal energy. These engineers are needed for production plants for hydrogen, ammonia, cement or other chemicals. All high energy-use plants.

7. Environmental Engineer: Environmental engineers design and implement systems to mitigate environmental impacts.Water treatment systems to manage geothermal fluid discharges.

8. Steam turbine engineers who oversee the operation of older turbines and new turbines. Both may be used side by side or separately in a geo-thermal powered plants.

9. Instrumentation and Control Engineer: Instrumentation and control engineers design and maintain instrumentation and control systems. They monitor and regulate the geothermal power plant's equipment and processes.

10. Power System Engineer: Designs and maintains the power transmission and distribution system to the grid.

**Managers and Specialists:**

1. Project Manager: A project manager oversees the entire installation process. Ensuring that the project is completed on time, within budget, and meets all safety and quality standards.

2. Operations Manager: Oversees the daily operations of geothermal power plants, including maintenance, repair, and optimization of equipment and processes.

3. Health and Safety Manager: Responsible for ensuring health and safety regulations.

4. Land Acquisition Specialist: For existing plants, for new sites for supplying existing industries and metropolitan areas.

5. Procurement Specialist: Responsible for sourcing, negotiating, and purchasing the equipment, materials, and services.

6. Quality Control Inspector: Ensures all equipment, materials, and processes meet the required quality standards and specifications.

7. Pipe fitters for high heat steam applications

**Geologists**

Geologists/seismologists and hydrologists: Studies the geological characteristics of a potential geothermal site. Determine its viability for geothermal energy

production and reviews seismic concerns for installation of geothermal wells. File reports for government applications and compliance.

**Environmental Fixers**

Environmental Fixers: I made this profession up. You can use it to describe the people needed for negotiating any environmental and community issues related to citing and operating the proposed plant. Possibly a public relations person would be involved, sometimes a lawyer and other times some with experience in community action and communication.

**Support Staff**

Support staff: All the other people required to make the organization functional. (accountants, lawyers, HR, etc.)

**Technicians**

Drillers and other field workers. These are the Hands-on workers in the field that run the drilling equipment in any industry using drilling equipment.

Electricians: Hook, test and inspect all electrical connections and wiring from plant to grid.

Control Systems Technician: Responsible for the installation and maintenance of the control systems. Those systems regulate the geothermal power plant's equipment and processes.

Welder: Responsible for welding and fabricating the pipes and other equipment needed for geothermal power plant installation and operation.

HVAC Technician: Installs and maintains the heating, ventilation, and air conditioning systems in geothermal power plants. Ensures proper operation and maintain a comfortable working environment for employees.

This is **not** a complete list of career titles involved. Installation and maintenance of geothermal power plants for electric power and chemical processing is complex with many careers working together.

## Conclusion

Unlike many of the climate industry options, geothermal advancement stands out as a transformative force with the potential to make a profound impact. This technology can supply massive amounts of clean energy where it's needed most, with minimal environmental disruption. Unlike wind and solar, geothermal energy provides constant, uninterrupted power, making it a 24/7 energy source. Additionally, geothermal sites require far less land than sprawling solar farms, reducing impact on wildlife habitats and preserving more natural spaces.

Once a geothermal system is operational, the carbon emission problem is essentially eliminated. But is it really that simple? While geothermal energy largely avoids the direct emission issues seen with fossil fuels, there are still social and environmental challenges to address. The case of Ormat's project highlights this complexity, where tribal disputes and ecological concerns related to a rare toad species required intervention. These considerations show that social justice and environmental balance are not automatic but must be built into the process (of course this means another set of job titles).

On the positive side, geothermal energy has no toxic emissions for nearby communities, increasing the likelihood of local acceptance. Unlike oil or natural gas, there are no transportation-related spills, no supertankers, and no hazardous pipeline leaks. The energy source is drawn directly on-site, reducing logistical risks and costs. Existing fossil fuel infrastructure—like old coal, oil, LNG, and nuclear power plants—can be retrofitted to use geothermal wells, enabling a transition without massive new construction. By repurposing old sites, communities avoid the disruption of building entirely new power facilities while simultaneously reducing the need for shipping lanes, tanker trucks, or hazardous freight on highways.

Geothermal energy also addresses broader geopolitical issues. With no dependence on fossil-rich regions, there's a reduced concentration of wealth and power. There will be no equivalent to petro-dictators, no petrodollar-funded conflicts—just decentralized, local power generation. Unlike nuclear energy, geothermal poses no risk of radioactive waste or the threat of weaponization, removing another layer of long-term hazard.

Finally, for those seeking careers with purpose and impact, geothermal energy offers a unique opportunity. As old fossil-fueled plants are retrofitted for geothermal use, new jobs are created on-site. These jobs require many of the same skills used in fossil fuel, nuclear, and oil industry operations—allowing for a relatively smooth transition for displaced workers. This "just transition" element makes it a highly appealing career option for workers seeking to remain in the energy sector while contributing to the clean energy revolution.

As Carlos Araque, CEO of Quaise, puts it, there are few other energy technologies with such a compelling potential for impact. Geothermal energy's combination of steady power, scalability, retrofitting potential, and environmental benefits makes it a top contender for a high-impact career choice. The path is not without risks—there are technological hurdles to overcome and scaling challenges to address—but for those who value long-term impact, it's a field well worth paying attention to. The future energy landscape is being shaped now, and geothermal energy could be one of its strongest pillars.

# Make it Your Job to Electrify Everything

## Distributed Backyard Solar

Of course you can electrify everything you use. That's one way to contribute to the climate crisis solution. This is about your **job** to electrify everything.

**Examples of What That Might Involve**

We happened to buy an all-electric home in the 1970s. Today, that decision feels like a climate blessing we didn't fully appreciate at the time. Our water heating system is a prime example of this foresight. It's electric, backed up by a passive solar panel that provides all the hot water we need during the summer months with no additional energy input. In cooler months, the passive solar preheats the water, feeding it into an efficient electric water heater, significantly reducing energy usage.

When we first bought the house, space heating was handled by a ceiling-mounted resistance system. It was silent but expensive to operate. In the 1980s, a forward-thinking HVAC professional recommended we switch to an electric air-based heat pump. This system is far more efficient. An added bonus: it also provides air conditioning in the summer. It's surprising that many people are only now learning about heat pumps—we've had one working reliably for 40 years.

Our kitchen follows the same all-electric philosophy. We've upgraded to a magnetic induction cooktop and a high-efficiency electric oven, both of which replaced the original electric equipment. This setup eliminates the need for methane gas (rebranded as "natural gas" by SoCalGas) in our home, with no indoor air pollution to exacerbate respiratory issues. Propane is the alternative where we live, but it's costly due to trucking transport fees and adds to the carbon footprint. Plus, propane tanks occasionally explode in our ever—more frequent wild fires—a risk that's far too close for comfort.

The fireplace chimney was capped, replaced the wood burner with an  electric fireplace that provides the warmth and ambiance of a traditional wood burner—

minus the smoke, ash, and cold drafts and noxious gas and carbon dioxide by products. Plus, we don't pollute our neighbors with particulates that are nasty for lungs!

Outside, our energy independence continues. A photovoltaic (PV) solar array, installed in 2006, generates most of our electricity. A battery system bridges the gap during outages or nighttime hours. Our electric vehicle (EV) extends this clean energy ethos to transportation. Except for extended road trips, all our EV's charging power comes from our home's PV array or from our community's 100% renewable energy grid option.

**How This Relates to Careers in Electrification**

Our journey to electrify our home and transportation connects directly to the growing demand for jobs in electrification. You can build a career in one of these fields.

**Transportation**

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## Electric Vehicles (EVs)

The EV market is growing at an extraordinary pace. In Norway, about 80% of new cars are EVs. Over the past 14 years, Tesla has gone from producing zero to over 3 million electric vehicles. EVs aren't limited to cars; they include e-bikes and e-motorcycles, too.

**Who's hiring for EV-related jobs?**

- **Manufacturing Roles**: Engineers (mechanical, electrical, software, and materials science), assemblers, robotics specialists, and production workers.
- **Corporate Roles**: Accountants, managers, office staff, and logistics coordinators.
- **Sales and Support**: EV dealerships need salespeople, marketing specialists, and customer support teams.

- **Service and Maintenance**: While EVs require less maintenance than gas-powered cars, new jobs are emerging for mechanics trained in EV technology.

According to the *New York Times* (2/9/22), EV companies are "refitting factories, training workers, writing software, and upgrading dealerships" at a rapid pace. More than a dozen new EV and battery factories are in development just in the United States and a very large facility is in full operation in Reno, Nevada.

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## Electric Public Transportation

Electric buses are hitting the streets in cities worldwide and e-buses are supplying the ride to and from school for more kids every year. More electric trains and trolleys are being ordered to reduce urban congestion. Even the U.S. Postal Service is electrifying its fleet, with thousands of new EV delivery trucks rolling out nationwide. At least that was the plan to remove the 9 MPG ancient trucks with new EV's designed for clean air delivery. The Trump administration has tried to withdraw funds for this project though the Ford arm of this seems to be delivering.

Public transportation careers go beyond driving buses. Urban planners, city officials, and transportation analysts play crucial roles in shaping transit networks. Designing low-cost, high-efficiency transit systems—like modular "complete neighborhoods"—offers enormous career potential. These neighborhoods cluster essential services together, reducing the need for cars and lowering emissions.

Electric ship transport is another untapped area. Shipping accounts for a significant portion of global emissions, with many trips dedicated to transporting fossil fuels. By reducing fossil fuel use, we also reduce the demand for fossil-fueled shipping—a positive feedback loop.

**Who's hiring for public transit jobs?**

- **Manufacturing**: Similar to EV manufacturing, these jobs require mechanical engineers, assemblers, and software developers.
- **Planning and Design**: Urban planners, transit engineers, and public policy advisors design more efficient, electrified transit networks.

- **Government and Policy**: Politicians and public sector leaders shape policies that prioritize electric transportation.

On a personal note, as someone who lives on a mountain, I'd love to see an electric gondola connecting my area to the city below. It would reduce car trips over the pass and offer tourists a scenic ride above the Santa Barbara coast and Channel Islands. A park-and-ride system at the top could give rural residents a place to park before hopping on the gondola for a clean, efficient ride into town.

**Takeaway**

Electrifying everything—homes, transportation, and public infrastructure—has created an enormous demand for skilled workers. From engineers and mechanics to policymakers and urban planners, opportunities abound for people ready to build a climate-focused career. By tapping into this growing sector, you're not just earning a living—you're building a cleaner, healthier, and more sustainable future for all. It's a sad commentary on how burning fossil affects the breathing of so many around the world and shortens lives. A 2021 study by Harvard University estimated that air pollution from fossil fuel combustion was responsible for over 8 million premature deaths globally in 2018, accounting for nearly **one in five deaths** worldwide.

Harvard Public Health

Given all the positive ways we benefit from electrifying everything, this field is an obvious way you have have a large positive impact on climate problems with the job you forge delivering faster transition to electrifying everything!

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## Summary of Electrification Careers

**Sales/Education** that presents the electric alternatives in competitive ways.

**Marketing/Advertising** to let consumers know choices to remove fossil fuels from their lives. Gains expected for health, economy and to help reduce and remove carbon emissions.

**Mechanics & Technicians** to repair, replace, install and maintain all the electric parts of the electrified life.

**Manufacturing** (including assemblers, managers, techs and engineers): for anything that has been powered by fossil fuels and replacing with an electric motors.

**Architects** planning houses and commercial buildings with electrification for new and for retrofitting older structures.

**Engineers and Material scientists** to **research** and **design** new and more efficient electric devices that replace fossil fuel engines.

Of course there are workers employed in Solar PV and Solar Water Heating, Wind Turbines, Geothermal and Small Hydro power generating to supply the electricity as well.

"**Below the belt**" workers are all the unsung folks working on the details required to make everything happen. You might choose to contribute to making the world habitable for us all. Some possible titles: accountant, law, banking, construction, land acquisition, realtors, politicians and assistants, lobbyists, urban planners, rural planners, community organizers and a myriad of support staff.

# Jump on the Transition from Fossil to Clean Energy

Earlier transition in energy took this water wheel grist mill “off line.”

Sammy Roth of “Boiling Point” from *Los Angeles Times* in May 19, 2022 is an story of the transition underway. He documents how one of the biggest coal plants ever making the transition to a cleaner future. Pack your bags and your skills and start looking for all the ways and places where the transition is underway. Jump on the Transition from Fossil to Clean Energy!

Roth’s article provides details: on transition funding, why this is happening and where this is geographically. All good facts for you to use if you want to align your career with a new climate career. In this instance, most of the skills required are the skills coal plants have used for years. There are still turbines spinning generators to turn out electrons connecting to enormous cables. The new tech is around transition to, first, natural gas and phasing in green hydrogen and then completing the transition with all green hydrogen. Is it time for you to jump on the transition from fossil to clean energy?

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## Transition Challenges

Are there skeptics? Yes, and there are big obstacles to surmount. Maybe that’s where you come in. People who understand the industry and the challenges of supplying electricity from an all green hydrogen source are crucial to push this through to completion. People who can build Turbines that can handle pure hydrogen are most important. Funding is underway and while this is a reach, it has potential and they were hiring people in 2022.

In addition, politics and local interests are involved. In Utah, the state was happy with the coal burning plant and has moved to punish the Intermountain Power Agency for moving to sustainable energy! Working to deal with conflicting government department values requires special skills in negotiation. Every problem is an opportunity for the right person. Can you develop viable public

policy and negotiate between actors who are at odds about the decisions being made? Of course you are going to be of huge value as the transition business heats up. No one gives up the power and money they have without a fight.

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## Old Soldiers

Some of the players in transitions are going to come to the table beat up by the bare knuckle politics of the past few years. Some of them have been throwing punches as misinformation, green washing and more. That doesn't mean they are the permanent enemy. In fact their resources may be necessary to make clean energy projects a success. Careful evaluation of what is being negotiated and what the long term results will be are important.

**Summary**

Looking for more on transitions? Start browsing for clean energy or sustainable power projects that are necessary to meet future goals set by country, state and city governments to transition to a better clean energy future. Of course, ask everyone you know.

The Nature Conservancy efforts to promote clean energy transitions incorporate a variety of projects: https://www.nature.org/en-us/what-we-do/our-priorities/tackle-climate-change/climate-change-stories/choosing-clean-energy/. Here's some grist for your mill on geo-thermal energy production and the funding that is involved there. And a Penn State Faculty member weighs in on the possibilities: https://iee.psu.edu/news/blog/transitioning-renewable-energy-challenges-and-opportunities. Here is a look at the computational approach to dealing with the special profiles of alternative energy and demands: https://news.engr.psu.edu/2022/li-yan-address-new-challenges-in-power-grid.aspxCareer Titles at Play in Transition

Power plant operator

Safety Officer

Environmental Impact Evaluator

Water Resource Evaluator for impact on water resources

Project Negotiator

Public relations officer

Remote transmission planner

Power Generation technicians

Hydrogen Turbine Research/Development Engineers

Hydrogen Pipeline analysis

Utility Plant operator

Financial analyst

Fabrication Technicians

Civil/Structural engineer

Material Scientist

Electrical engineer

Large equipment assemblers and installers

# How to Stay Employed in the Transition to EVs

What are we going to lose? With millions of EVs and trucks already on the road, the move to electric powered transportation is underway. Millions more are being built all around the world. China, Viet Nam, Germany, France, Mexico, India, Korea and the US are all building new EVs. Lost jobs in automotive industry will total in the millions. If you intend to survive this transition, this is the time to prepare! And that's why you need to know how to stay employed in the transition to EVs. Here's an inside view from the automotive factory folks on the transition ahead.

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## Unnecessary ICE Parts for EVs

Parts sector: Expect that workers producing the parts unnecessary for electric cars will see rapid decline in jobs. Even if the number of EVs settles at just 50% this is going to create a significant, sudden turnover in the automotive market. Specifically the following parts are no longer needed: Transmissions and combustion engines nor will that the repair, replacement or adjustments or tune ups. Radiators, clamps, caps and hoses for coolant, belts, fan blades and alternators are unnecessary. Spark plugs? No! Replacement wiring for the engine? No? Change the coolant? No! Change the oil and filter? No! Drain and replace automatic transmission fluid? No! Just thought about gas tanks, both built in and used to go get gas when you run out, no? No! How about air filters? Well, there is a cabin filter in some EVs.

Will they need maybe those trick computerized control boxes to jack the performance? No! Well, maybe, but the EV manufacturers are moving so fast with rolling out those options you will have to compete with in-house development. Diagnostic analyzer? Built into the mobile system of many EVs. Even brakes need little replacement due to regenerative braking on EVs. If you are currently employed in this sector, the change over may be more precipitous than expected. Cheaper operating expenses are moving more customers to that choice regardless of government incentives and regulations.

If the recent predictions in new batteries break on the market, EVs could have the range advantage, not the ICE vehicle.

Even trailer hitches and receiver hitch bike carriers are effected. The EV computer doesn't talk to after market devices that go in the receiver hitch! Some EV's calculate range based on proprietary hitches and makes adjustments in range reports to the dash.

Cheaper operating expenses are moving more customers to that choice regardless of government incentives and regulations. Plus, since I wrote this article two of the major players dropped the price of their EV's up to 20%, which seems to have speeded things up another notch. It seems indicative that home-grown micro chips and parts can make manufacturing more reliable and cheaper.

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### Life Span of EVs

The life of cars has increased over the past fifty years and EV's may boost that significantly with fewer moving parts. Also, some are moving to more carbon fiber and aluminum body parts for weight reduction. Those same parts are impervious to rust. Therefore they are likely to continue running longer. Still more reason to learn how to stay employed in the transition to EVs. Some high-end EVs are being touted as super long lasting for the average driver. Just another example of why it's necessary to know how to stay employed in the transition to EVs.

## Service sector

**Service sector**: Service stations eliminated service long ago. Gas jockeys used to fill our cars, clean our wipers and check the oil. They would also fill up a low tire, peel a flat off and repair it. THAT was the **service**. Meanwhile, they were dispensing the latest gossip, or directions should you need any.

**Fueling stations**: "Service" stations today mostly sell convenience junk and a few automotive things. Even that is about to change. Most EV "stations" are a simple row of chargers. No building, tanks, pumps, or cash register and most important to the owner, no employee, none. Of course there is no gossip or maps either. There's a niche here for restrooms and convenience shopping and fast food. However,

many EV charging locations already provide that from nearby businesses. Also fewer charging units–than fuel pumps–are required since the majority of EV fill ups are done at home.

**Fuel delivery sector**: trucks, pipelines, trains and ships that deliver automotive fuels will diminish significantly, only supplying the smaller set of internal combustion engines remaining. The same is true of pipelines, though there may be new uses. People used to buy small quantities of fossil fuels in containers at the general store. Hmm, returning feature?

The remote service innovated by Tesla is being used at Rivian as well. Many recalls and minor software fixes are done without requiring shop visits at all. Some service will require the attention of a mobile service technician and both remote and mobile service will decrease the number of visits to physical service centers, which means fewer buildings to lease/buy or maintain. Most recalls are done by mobile hookup for digital fixes. Even glass replacement in autos is digital order and mobile replacement regardless of the fuel for the vehicle. Look for more automotive service to fit this model.

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## Dealerships

Car dealerships profit mostly from doing service. Sales are moving quickly to the internet. Used cars are already sold and bought from online sites. The Tesla and Rivian model of online sales is much more efficient. No sales person or showroom is necessary. Access for test drives exist and delivery is often to your drive way. As most service in replacing moving parts diminishes the number and size of dealership service centers is bound to decline. Any strategy that cuts overhead is in use or under consideration.

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## Summary of ICE industry Job Losses

Fewer manufacturing jobs, service jobs, fuel deliver jobs, less fuel, auto parts and factory manufacturing jobs, fewer station jobs, dealership jobs and fewer technician jobs. This is a sea wave in the making.

Of course there are other possible scenarios. Some advocate ICEs on board cars to keep a charge for smaller battery packs. Constant speed ICEs can be much more efficient (than those moving the car, not more efficient than EVs)  and run much cleaner than an all purpose automotive power plant. These hybrid cars will have more of the traditional service and parts array requirements.

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## How to Make Your Move to the New EV Industry

Clearly the easiest transition is to pack your tools and go work for the EV guys. The skill set will over-lap. There will be some new expectations required. Most likely, those showing up earliest will have the greatest opportunities. Don't wait if this sounds like your next career option. There are going to be millions of displaced automotive workers on your heels.

Tesla has a set of technician qualifications on their expectations for technicians. Their example shows how the auto tech market is changing. Getting certified with them or one of the other EV manufactures is a fast way to transition as a technician.

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## Parts Still Needed

If you plan to stay in the part business as a manufacturer or employee, it will be necessary to look at EV requirements. What IS needed?: Tires! EV's still need

tires, maybe a bit more frequently as some tend to be heavier, but not as heavy as the larger SUVs and "trucks" already on the road. Wiper blades still wear out. Windshield cleaner needs replenishing. Cars will still need dents removed and body parts repaired or replaced and painted, though they may be smart enough to avoid more and more bumps and grinds. Struts and bushings for suspension didn't go away. Glass for windows will get broken and need replacing and the alignment of front windshields requires more care than in the past due to cameras that are attached, but that's true of many ICE vehicles too. Floor mats and mud flaps have about the same expectations.

If you are wondering about supplying batteries for EVs, the trend looks like that isn't going to the parts industry. Batteries for most EVs are integrated into frames and considered mostly permanent. Nissan expected Leaf batteries would need replacing and planned for that eventuality. Check this article about Nissan finding that the batteries are lasting much longer than expected. Those were not the batteries that were most expected to last. Certainly there are battery failures, but most will be the responsibility of the manufacturer.

The large scale lithium battery recycling is now in place with Redwood https://www.redwoodmaterials.com/ where they are first sucking the remaining power out of slow to charge or otherwise compromised EV batteries and also recycling the materials in lithium batteries for building new ones. Innovation in this industry will continue and provide job opportunities for a wide range of work from **engineers, transportation, manufacturing and always accounting, sales and public relations**.

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## Charging Stations

Charging stations require maintenance and they are being installed at a fast clip. Jobs will continue to be grow in that area. Setting up new charging units is a lively job area while new chargers continue to be installed for the next decade or more. Modularized charging stations require fewer person – hours already, so efficiency in manufacturing and installation is starting to cut into this area even as the numbers of chargers is rapidly expanding. Judging from social media, some brands of chargers need more maintenance and aren't getting it. So either those folks need to hire more charger techs or they will be going out of business. Nothing cools the business relationship like have a non-functioning charger, especially at the critical point in a trip!

The people who find and negotiate the locations for charging stations will continue to be a strong need.

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## Battery Recycling

The continued life of an automotive battery pack is a long one. Life of Li-ion batteries are reported now up to 500,000 miles in EV taxis and ground transport cars. Seventy percent is the point many say is when a car battery is done. However, 40% on the large 300+ mile packs is more than enough to make the car still viable as local commuter, or the kid's car, easily covering the 30 miles that are the daily drives for a huge part of the trips made. Therefore many of the older cars will be pressed into service as a cheap mode of transportation at shorter ranges.

Once an automotive battery is deemed inefficient it is targeted for residential or grid backup purposes where the stress is lower and the range is not an issue. After that there are recycling plants for recovery of the valuable minerals in the battery for new use. And this recycler says the materials get better with recycling!

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## Research for EVs

Boy, do we need research! New methods of creating longer lasting and longer range batteries with less of the exotic minerals are one example. Automotive research can develop more efficient EVs that meet the various needs of people around the world. That includes, bikes, scooter, trucks as well as cars. We need research regarding every step for creating a true circular system so cars are recycled more completely into new products including more cars. This is one area where automotive experience and education could pay off handsomely as you move upscale in you career options. Additional education in mechanical engineering, electrical engineering or materials science certainly are of interest for

the advanced concepts involved. This a great sector for staying employed during the transition

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## Custom eCrate Swaps

Chevrolet has a new performance eCrate is available for engine swaps. I often dreamed of swapping the dino burning ICE engine in my favorite car for an electric powerhouse. This is going to translate into jobs. Jobs for innovative folks who will make it possible for vintage car drivers to keep their cars on the road with a new, trouble-free electric drive. Here's what one person says in response to this article about the old car: "It would be great in my '64 convertible. No overheating issues in traffic!!"

The cost could be limiting, so it makes the most sense for the ride of your (client's) life that you want to keep running. Here's another link for an additional eBlock. If this is of interest, then learn to extend the life of vintage cars. Careers in performance and vintage vehicles has thus added a climate friendly option you could be part of. Done right, this means a good job during the transition to EVs.

At the far-expensive end of the ICE-EV swap involves Land Rovers renovated and at about $350,000 to $5000,000. Or maybe you can do it yourself.

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## Other Alternatives outside Automotive Industry

Clearly you could move completely outside the automotive industry. Clean electricity production, end-use, and transmission are all booming as we look for the cleanest, most efficient ways to power our modern lives. The move is on to electrify everything possible. John Deere is making huge electric field tractors, gas appliances are being replaced by their electric counterparts. Heat pumps are heating our water and providing AC and heat for home and office spaces. Even some race cars are fully EVs or hybrids like F1.

The geo-thermal production of electric energy could create a wide range of new jobs for displaced employees to replace fossil fuels with this clean energy source.

Here's more on making the transition to climate positive careers.

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### Summary

Predicting the future is fraught with all sorts of unknowns. You can stay in your current automotive career job and hope things continue pretty much like now. Or chose to move now to an alternative career that helps change the future by decreasing carbon emissions. Even if the future doesn't turn out as dominated by EVs as the maximum roll out might suggest, which would you feel was more of a contribution to your family and your planet? Time to learn how to stay employed in the transition to EVs.

There are employers expanding all manner of electrical work from major transmission lines, to installing power production equipment to appliances. The agriculture field is on the cutting edge of transition to more climate friendly production including regenerative farming.

## From Novels, Digital Games, and Art to the Climate Future You Want

Every creative art form offers the chance to spark new ideas and invite audiences to imagine positive, sustainable futures. These projects can succeed both as commercial ventures and as artistic expressions, while also reshaping how people envision what's possible. If you are already creating art, adapting your skills to portray the future you want is a natural extension. It's a challenge that aligns with developing the tools, stories, and visions we need to address climate change.

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### Climate Futures in Fiction and Nonfiction

Writers such as Kim Stanley Robinson (*The Ministry for the Future*) and Neal Stephenson (*Termination Shock*) have brought climate futures into the mainstream. Their stories are entertaining yet sobering, filled with threats to our way of life but also creative solutions. Bill McKibben's novel *The Other Cheek* offers a non-violent path forward. Collections such as *All We Can Save* demonstrate how essays and nonfiction can also foster communities committed to new climate careers and futures.

Across novels, essays, documentaries, and comedy—think of Matt Green's climate-infused humor—artists are showing that creative work can inspire reflection and even career choices. The question is: how do you move from reading and creating these works to building the climate future you want?

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## Digital Games as Climate Storytelling

Digital games already blend storytelling, design, and interactivity in ways that rival novels, film, or visual art. If you are developing games, adapting your craft to envision sustainable futures is a natural step. Designing mechanics that reward climate solutions or structuring a **core loop** where sustainability is the winning strategy can be both commercially successful and socially impactful. Games like *Eco* and *Terra Nil* already experiment with sustainability themes, showing the tension between development and ecological balance. The next frontier is games where sustainability is not just a constraint but the path to victory—making climate solutions engaging, rewarding, and widely accessible.

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## Moving Beyond Dystopia

We have no shortage of dystopian visions. If they were enough to scare us into action, we would already be living in a better future. While dystopias can be instructive, they too often lead to despair rather than motivation. What's missing are compelling, credible stories of positive futures.

A well-crafted vision of a sustainable future need not be naïve. It can acknowledge the difficulties ahead while still offering models of resilience, cooperation, and innovation. Positive futures can help audiences imagine careers, policies, and technologies worth striving toward—and that inspiration is essential for real change.

## Inspiring New Pathways

Your art can illuminate options that you may never personally pursue but that others might. A fictional character solving climate problems in unique ways could motivate someone to pursue engineering, policy, or activism in real life. Likewise, your own work might cross-pollinate: a documentary leading to a novel, a game inspiring a screenplay, or an essay growing into a consulting role.
By building futures through art, you may find yourself on new paths as well. Writing is often a way of learning, and new opportunities can arise from the ideas you put into the world. Whether through novels, films, games, or other media, we need stories that inspire action and sustain motivation for the hard work ahead.

## A Call to Create the Future We Want

I've had more than enough of dystopian warnings. What we need now are creative visions of futures worth building—illuminating, motivating, and believable. Art in all its forms can help us imagine, and therefore work toward, a climate future we actually want to live in.

## From Novels, Digital Games and Art to The Climate Future You Want

Every creative art form offers the chance to spark innovative ideas that invite audiences to imagine positive, sustainable future. Your project can succeed as both commercial ventures and artistic expressions while helping to reshape your audience's vision of what's possible. If you are already creating art, adapting your skills to envision a possible successful future you want is a natural extension. It's a challenge that aligns directly with developing the tools and stories we need to address climate change.

**Kim Stanley Robinson** (*The Ministry of the Future*) and **Neil Stephenso**n (*Termination Shock)* both wrote entertaining climate novels. Both authors present a bleak picture of our near-term future with significant climate threats to our lives. Both present creative solutions that focus ideas already in circulation, but with their unique perspectives. You can decide if these are outcomes you want. Well-

presented art like these two novels has many people thinking about future options. People also will be considering action and careers based on their experience. How do you get from novels and art to the climate future you want? And what does that have to do with your career?

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## Choose the Future You Want to Focus your Art

Choose the future you want as subject matter for the arts. Bill McKibben has done it with his own non-violent novel, The Other Cheek. Developing the story of the future you want is a good idea, just not mine. Art as a novel, a screen play for movies, TV, digital gaming, blogging, story telling or podcasting or any other media, offers so many possibilities for exploring the future we will have. Here is comedian Matt Green's approach to presenting climate issues. By extension, essays, documentaries (here's a series of documentary classes on climate issues from Project Drawdown) and other works of non-fiction are certainly creative as well. *All We Can Save* is a creative collection of climate essays that has spawned a community of circles for folks who work to understand climate issues and work towards a better future including their new careers.

**Digital Games** already blend storytelling, design, and interactivity in ways that can rival novels, film, or visual art. If you are already developing games, adapting your skills to envision the future you want is a natural extension. It's a challenge that fits squarely with creating engaging mechanics and worlds that also serve as tools for addressing climate change. We already see glimpses of climate-aware design in games like *Eco* or *Terra Nil*, where players experience the tension between development and sustainability. Imagine pushing that further—building commercial titles where the core loop rewards climate solutions, and the mechanics make sustainability not just an obligation, but a path to victory. That's the frontier for the next generation of developers.

## If Dystopian Stories of the Future Worked, We would have a great future now!

I've read and watched a plethora of dystopic futures. If dystopias were going to scare us into a better future, we should have it already! The chaos and disruption is entertaining in ways frightening and instructive. But who wants to live with robo cops, or nuclear war and total loss of habitats? So how do you move from novels and art to the climate future you want?

The idea of presenting a future you want is appealing as a model for solutions and options. It's could be a huge contribution to society wrestling with complex problems. Many climate problems are difficult to model and forecast let alone to comprehend for us outside the climate science discipline. The positive future story could ward off depression and inaction if carefully crafted and not a simple polyanna story. A good dystopic story might shock people to action. But the arriving at depression instead of action as a result of dystopia is not helpful. I think that idea is overworked while the positive, if difficult, future could be more motivating towards moving audiences to consider the climate future they want.

## As a Reader, Gamer, or Film Watcher, Look for Role Models and Policies

For those of you who don't plan a career in the arts, you may find the future you want from the works of others. Look for careers revealed in art of and ways to implement best climate policies and practices that are stimulated by that art. Plan your transition with an eye to the skills you will need and start meeting the people in the field. You can move from the audience of novels and art to the climate career you want, designing and creating the future you need!

## Some Careers to Consider for Climate Art:

While I expect most creative people will focus on a broader range of material rather than climate issues, it is possible to laser focus some of your effort to this mission for specific projects. An example of extended efforts from the past was the short-lived Green TV Channel where the programming was mostly about environment and climate issues. Frankly, I can't tell if that programming effort morphed into the website I was directed to or what happened, but *Living with Ed* was a featured show that is still available.

The key message to creators is: **you don't have to be a scientist to contribute to climate solutions** — your medium (whether a novel, game, or song) can motivate people to imagine and build the future they want.

🌍 Creative Roles & Climate Pathways

📚 Writing & Literature

- **Novelist / Short Story Writer** → Speculative or near-future climate fiction (*cli-fi*) to explore risks, resilience, and solutions.
- **Playwright** → Stage works dramatizing community choices around climate change.
- **Essayist / Poet** → Personal, lyrical, or reflective pieces capturing lived experience of climate impacts.
- **Editor** → Shapes anthologies (like *All We Can Save*) to bring multiple voices into climate dialogue.

🎬 Film & Television

- **Director / Producer** → Climate-centered films (fiction or documentary) shaping mass perception.
- **Screenwriter** → Climate narratives in mainstream genres (thriller, romance, comedy) to reach broad audiences.
- **Cinematographer / Camera Operator** → Visual storytelling of landscapes, disasters, or resilience.
- **Documentary Filmmaker** → Issue-driven projects that educate and mobilize action.
- **Production Designer / Costume Designer** → Imagining sustainable futures through set design, materials, and aesthetics.

- **Actor** → Humanizes climate narratives, embodying urgency and hope.
- **Film Editor / Sound Designer** → Craft pacing, atmosphere, and mood that amplify climate messages.

🎮 Games & Interactive Media

- **Game Designer / Developer** → Mechanics that reward sustainable choices, simulate ecosystems, or model real-world trade-offs.
- **Narrative Designer** → Story arcs exploring community resilience, renewable transitions, or climate justice.
- **Level Designer** → Worlds that respond dynamically to environmental decisions.
- **Technical Artist / Animator** → Visualize climate futures (wildfire spread, sea-level rise, reforestation).
- **Community Manager** → Build player movements around climate engagement (citizen science, real-world challenges).

🎤 Music & Performance

- **Songwriter / Composer** → Climate anthems, protest songs, or scores that deepen climate storytelling in film/games.
- **Musician / Performer** → Benefit concerts, public performances tied to awareness campaigns.
- **Sound Engineer** → Audio landscapes evoking climate realities (storms, silence of vanished species).
- **Storyteller** → Oral traditions and spoken word envisioning sustainable futures in culturally resonant ways.

📲 Digital & New Media

- **Blogger / Essayist** → Climate commentary, solution-focused journalism.
- **Podcaster** → Climate conversations, interviews, and storytelling that build communities.
- **Vlogger / YouTuber / Influencer** → Accessible, entertaining breakdowns of climate science and lifestyle solutions.
- **Multimedia Artist** → Interactive web art or augmented reality projects showcasing climate impacts and solutions.

Cross-Disciplinary / Support Roles

- **Climate Consultant** → Ensures scientific accuracy in films, games, novels.
- **Science Communicator** → Bridges research and public understanding with creative framing.

- **Curator** → Organizes exhibits on climate art, eco-futures, and activist creativity.
- **Educator** → Uses arts to foster climate literacy in schools and communities.
- **Community Organizer** → Blends creativity with activism to mobilize climate movements.
- Historian →Bringing historical context accurately to the project with an eye to lost climate opportunities and major mistakes from the past.

Creative & Design Roles

- **Game Designer** – Defines gameplay systems, rules, mechanics, and the "core loop."
- **Level Designer** – Designs specific environments, puzzles, or missions.
- **Narrative Designer / Writer** – Develops storylines, dialogue, world-building.
- **Creative Director** – Oversees the overall creative vision across art, design, and story.
- **Art Director** – Guides the visual style of the game.

Art & Visual Roles

- **Concept Artist** – Produces early sketches and mood boards.
- **3D Modeler** – Builds characters, objects, and environments in 3D.
- **Animator** – Creates character and object movement.
- **Texture Artist / Environment Artist** – Adds detail to models, builds immersive worlds.
- **UI/UX Designer** – Designs menus, interfaces, and player experience.

Technical Roles

- Game Programmer / Gameplay Engineer – Codes game mechanics and systems.
- **AI Programmer** – Focuses on non-player character (NPC) behavior.
- **Graphics Programmer** – Works on rendering, lighting, performance.
- **Tools Programmer** – Builds software to help artists and designers work more efficiently.
- **Technical Artist** – Bridges art and programming, solving performance and pipeline issues.

Audio Roles

- **Sound Designer** – Creates sound effects.
- **Composer** – Writes the musical score.

- **Audio Engineer** – Integrates sound into the game.

Production & Business Roles

- **Producer / Project Manager** – Coordinates the team, manages schedules and budgets.
- **Product Manager** – Focuses on market fit, monetization, player retention.
- **QA Tester / Quality Assurance Analyst** – Tests for bugs, playability, balance.
- **Community Manager** – Engages with players, manages feedback.
- **Marketing / Publishing Manager** – Promotes and distributes the game.

# Can Insulation save the world and Improve Social Justice?

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### Insulation just doesn't sound sexy!

Right! Insulation is not real sexy! But insulation and other weatherization methods are huge contributors to human comfort and health. Plus higher education is not a requirement for entry level jobs. Small businesses do much of the work. And it's local work that's not going to be done in another country and then shipped here! There are opportunities from communities and federal government to create social justice programs. Those programs make a real difference in low income families' comfort and heating/AC costs. Insulation can help save the world and improve social justice.

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### Here's the Numbers on insulation

The impact of insulating peoples houses is huge: 16.97–19.01 Gigatons CO2 Equivalent can be saved with this step alone, see Project Drawdown. Cooling and heating savings over buildings' lifetime was estimated to be $21-24 Trillion dollars! That might still not be sexy, but it is a very significant contribution to climate impact. If you resigned a dead end job and want to do make a climate contribution this is worthy of consideration.

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### Social justice and insulation, who needs it most?

The folks with the least ability to pay for the loss of energy benefit immediately from better weatherization! When the heat simply leaks through the walls and out the door frame it costs more to keep a livable temperature at home. If you want to help someone, what better way than providing a more comfortable home and

reduced energy costs? Where else can you have a greater impact? Help insulate and save the world, a little bit at a time, and improve social justice.

## Choosing Low Pollution Alternatives

Who knew? The products in insulation vary and "trichlorofluoromethane, or CFC-11, is to be phased out worldwide under the Montreal Protocol, the global agreement to protect the ozone layer. The industrial gas, used illegally, … in insulation material, also contributes to global warming." Sourcing insulating materials, developing new environmentally benign materials and manufacturing them in low carbon factories are another opportunity for contributions to protecting against pollutants and hauling down our carbon burden. These are jobs for buyers, inspectors, manufactures and material scientists.

## What jobs exist related to insulation?

Jobs in this sector are not going overseas. This is work that needs to be done in each community and provides local employment.

**Home energy assessor**: These people do home energy audits to determine how well houses or other buildings are insulated. Both private companies and government paid positions offer this service depending on income level and location.

**Insulation installer**: Installing the insulation involves labor intensive work. Usually easier in new construction, but very important to for retrofitting older buildings.

**Manager/owner**: The boss of the operation oversees the employees and makes contracts for proper funding requirements.

**Buyer**: Develop specifications for climate friendly manufactured materials and purchase high quality non-pollution insulation materials and sealers.

**Sales/Marketing**: Outreach to community members to let potential customers know about services and products related to benefits.

**Materials Science insulation researcher/developer**: Researchers working to make insulation using less energy and with recycled materials as well as means of better installation procedures. Better materials with less pollution impact in manufacturing and in house out gassing.

**Community Organizer**: People to encourage the community to take part in funding available for legitimate programs.

**Insulation Manufacturing**: Factory work tending the machines, loading material, filling orders.

**"Below the Belt" Jobs**: Website builders, truck drivers, accountants, analysts and marketing.

## Putting out the Fire This Time

Front cover for *Fire Song in Three Parts*

### Living With Fire: Careers, Policy, and Community Choices

Everyone knows we're seeing more forest fires than we're used to — or at least more than anyone alive can recall. Before people who look like me arrived in North America, the fire regime was shaped by lightning and by cultural burning practices of Indigenous peoples. Evidence shows that there was actually more fire then, not less.

Today, many agree that our current fire patterns are fueled both by climate change and by decades of fire suppression. Firefighting remains the first line of response, and becoming a forest firefighter is now a climate career. The work begins with putting out the fire, then shifts to rehabilitating forests, grasslands, and chaparral. Planning starts even before the flames are extinguished — anticipating floods, debris flows, and recovery needs.

### Beyond Firefighting: The Second Order

Fighting fire involves more than frontline crews. Sometimes the right decision is to let a fire burn, especially when it clears undergrowth and restores habitat. That's where land managers, policy makers, climate and weather modelers, researchers, and educators come in. As Chad Hanson notes in *Smoke Screen*, failed policies often make fires worse. Real progress means running ahead of the fire — years or decades in advance — to manage fuel loads, guide development, and prepare communities.

The best evidence-based defense is hardening homes and businesses: clearing vegetation within 100 feet, using fire-resistant materials, and designing landscapes with safety in mind. While thinning forests or removing snags may seem logical, research shows it can be counterproductive, releasing more carbon and undermining wildlife habitat. Science-based policy, not guesswork, must guide management.

## Lessons From Suppression and Cultural Burning

I spent three seasons on fire crews when the policy was simple: put every fire out, immediately, no matter where or what was burning. It was expensive, dangerous, and in some cases misguided. Many fires could have provided better habitat if allowed to burn. We now know that too much suppression built up fuel, creating today's massive, fast-moving fires.

Controlled burns — known traditionally as cultural burns — offer a different path. These low, cool-season fires, long practiced by Indigenous peoples, reduced fuel loads and improved harvests. They remain a vital tool for restoring balance and reducing catastrophic fire risk. This field is ripe for more research on what, when, and how with all the variables to bring this tool in to modern use without doing more damage than good.

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## Forest Management and Climate

Managing forests for climate resilience means rethinking old assumptions. Thinning and logging often release more carbon and increase fire risks, as Hanson and others document. Instead, the priority should be keeping carbon stored in forests and soils, even when fires occur.

Recent reporting in the *Los Angeles Times* underscores this shift: saving communities requires focusing directly on homes — hardening structures, enforcing defensible space, and supporting strong local policies. Here's the article: "Experts call for a shift in fire defense. Forest management is not enough, some say. To save communities, they urge direct focus on homes themselves." By Hayley Smith and Alex Wigglesworth, LA Times 8/21/21. This LA policy, against the grain of many other policy makers is saving lives and homes. Science is worth reading and understanding. Be informed as you enter your new field!

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## The Third and Fourth Orders: Where and How We Live

Policy makers, land use planners, emergency agencies, and insurers all face hard questions: where should people live, and how do we manage development in high fire zones? Communities like mine at the wildland-urban interface know these

tensions well. Ethical and practical questions about retreat, rebuilding, and risk-sharing will shape careers for planners, legislators, and emergency managers.

Living with fire also means designing better buildings. Architects, material scientists, and landscape architects are developing safer structures and sites. Compliance and enforcement matter, too — Los Angeles has shown that strong inspection and defensible space rules save lives.

**In sum:** putting out today's fires is urgent, but preparing for tomorrow's fires is even more critical. That means honoring Indigenous knowledge, following evidence-based policy, hardening homes, and supporting a wide range of careers that help communities adapt to our fire-shaped future.

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## Mental Health and Community Resilience

I've even written children's stories to help kids process the fear of nearby fires — a mental health approach that complements the work of professionals who support both first responders and families. Fire education, crisis counseling, and storytelling all play a role in resilience. My small book *Santa Barbara Fire Song in Three Parts* is available free from Amazon.

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## Carbon Reduction

Like any other industry the fire management/suppression efforts create carbon emissions. All problems mean opportunities for jobs. The function is to operate with the smallest carbon footprint possible while maintaining the safety and efficacy of the operation. Sustainability officer is a possible title whose job of reducing carbon emissions could be coupled with efficiency efforts.

My research was surprising as I found that the amount of carbon related to logging and deforestation in the USA is greater here than other countries. Again Hanson's book is of great value for references on the misguided policies supporting more logging where it is creating more fire problems and much more carbon burden in the atmosphere. Fire policy and fire hardening are great areas for making a

contribution towards public safety and at the same time making a difference on climate factors!

## Fire Equipment

The history of fire fighting equipment goes back to the bucket brigade and forward to today's jet air tankers and drones. Satellite GIS analysis along with other remote sensing provide mountains of data while satellite imagery provides real time monitoring on fires. Research, development and manufacturing on new equipment from fire trucks, helicopters to drones and home protection systems all require a series of workers. Material scientists develop new housing materials, clothing and products for fire suppression.

## Emergency Response

During fires, staff are needed for traffic control, for providing accurate fire information and accurate information on evacuations and plans. EMTs, police and additional fire staff fill many of these roles coordinating with local media. Pre-planning in communities is sorely lacking with few people aware of the threat in their areas or the process for safely escaping fires.

## Food and Housing Support

Fire camps require serious logistical support to see fire fighters are transported, feed and housed whether at the camp or in commercial lodging. Coordinators for this purpose reach into the community for resources while the fire crews are in place for larger fires.

## Summary List

My list may not comply with the titles used in the field, so use them as functional categories and when doing your research ask about people who provide services in these categories. Like my other lists, this is far from an exhaustive list. It takes a lot to put out the fire next time!

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## Jobs Across the Fire Landscape

Fire management creates work across many fields:

- **Frontline** – firefighters, EMTs, traffic control, evacuation support.
- **Planning & Policy** – land use planners, legislators, GIS specialists, climatologists.
- **Science & Education** – fire researchers, meteorologists, educators, historians.
- **Technology** – equipment designers, drone operators, satellite analysts.
- **Air Support:** —Pilot, Air Tanker,Air Scout/spotter pilot, Air Tanker refuel and reload staff
- **Logistics & Support** – camp coordinators, food and housing providers, mental health professionals.
- **Research and Support--Fire Researcher, Public Historian with Fire Emphasis**
- **Material Scientist**
- **Climatologist**
- **Meteorologist**
- **GIS developer**
- **GIS modeling specialist/analyst**
- **Emergency Medical Tech**
- **Fire Educator**

- **Fire Camp Coordinator (shelter and food support)**
- **Heavy Equipment Operators**
- **Burn Boss (controlled burns)**
- **Architect, building and landscape**
- **Forest Management Officer**
- **Landscaper**
- **Fire Communications Officer**
- **Public Policy Developer**
- **Emergency Management team**
- **Police/Sherif staff**
- **Fire Trainer**
- **Legislator**
- **Legislative research assistant**
- **Insurance Agents**
- **Urban and Wildland Planner**
- **Crisis Intervention therapist**

# Is there a career for you in Rewilding?

Reclaim the land for Rewilding. Previous farms, ranches and golf courses are being re-wilded. Some are specifically called by that term and others are turning these previous human-dedicated properties into wildlife reserves, research facilities or perhaps a combination. For the past fifteen years I have been volunteering at Sedgwick Reserve, part of the University of California (UCSB) Natural Reserve System. The land was a Mexican land grant from 1845. Primarily a cattle ranch until the latter part of the 20th Century, it was donated to become part of the Natural Reserve System providing habitat for native species of plants and animals. While there is plenty of human activity, all of it is about better stewardship of nature through dedicated learning with research and education.

A failed California golf course has become dedicated to wildlife habitat and absorb flood waters and rising sea level storm surge. It was purchased through a consortium effort of partners and administered by UCSB. Now it boasts wildlife including birds, amphibians and fish plus mammals. There are millions of native plants growing where little white golf balls rolled.

In my county there are several other efforts I see as rewilding. Some are very small and others thousands of acres. It's possible you might find projects near you that you can work at. Perhaps you can volunteer to get started. Is there a career for you in rewilding?

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## Rewilding Europe

I want to introduce Rewilding Europe as an example of a larger, cross national organization for rewilding. You can see the job titles are available necessary to make this work. Rewilding Europe is an international rewilding, not-for profit organization, Rewilding Europe, celebrating their first ten years. Here a small group of staff members make big plans for the continent, to "Make Europe a Wilder Place." Look at the roles the staff hold. Look at their goals. Then decide if their goals and their roles are something you want to be part of.

That doesn't mean you should go take over their jobs. It means look at the roles in this dynamic group and decide if you want to replicate this. Can you find or create a group like this in your part of the world? It is already happening. Do you want to become part of it? This is a piece about finding or creating the organization and the job you want. Read their story and go find others. I highly recommend you start with extensive research to see what exists and not to start something that replicates efforts already well under way.

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## The Nature Conservancy

The Nature Conservancy (TNC) has a somewhat similar mission to Rewilding Europe. It has properties across many countries around the globe. I've been a volunteer in the past at the Santa Cruz Island, the closest of their properties to where I live. In fact I can see the island from my windows on any clear day. TNC has a goal of conserving properties representing special habitats. They are similar to the UC Nature Reserve with their emphasis on research for conservation.

You can see their leadership positions a this site. However, their total staff is quite large and I don't see a list online. I see that TNC lists new jobs almost daily on Twitter. There are probably other sites as well.

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## A Rewilding Career For You

If rewilding is of interest to you, I think you can find there are many avenues to enter into the efforts of taking old properties and repurposing them for wildlife and habitats. So the answer is, there is a career for you rewilding if you want it.

To make the transition from what you do now, start by evaluating your skills and experience here.

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## Rewilding Job titles/Roles

This is a public list of their roles.
Managing Director, Executive Board
Head of Finance and Operations

Head of Rewilding
Head of Enterprise
Head of Communications
Head of Landscapes
Area Team Leaders (8, one for each region)
Central Staff:
Writer and Editor (2)
LIFE Project Coordinator (2)
Wildlife Economies Advisor(3)
European Wildlife Bank Coordinator
European Wildlife Network Coordinator
Reservations and Operations Assistant
Wildlife Tourism Manager
Finance and Operations Manager(2 )
GIS Data Manager
Senior Advisor Rewilding
Communications Manager (2)
Forest Offset Business Developer
Enterprise Officer (2)
Rewilding Research Fellow

# Tech Collateral Benefit for Climate?

## Eric Yuan, Collateral Benefit Guy

Time Magazine named Eric Yuan was named 2020 “businessperson of the year” this week. Zoom is Eric’s brainstorm, the platform your webinar arrived on and the same one you and your kid went to school with today. Eric Yuan founded Zoom and proceeded to undermine the fossil fuel industry. Tons of carbon stayed in the tank due to Zoom. People didn’t jet, ride a train or bus or drive a car to meetings replaced by Zoom. Did you read that Eric has a climate career? Did the media celebrate his success of mitigating tons of carbon from joining the 400+ PPM already floating around us? Probably not. But that is Eric’s gift of collateral benefit for climate! Eric and Zoom are responsible for putting a ratchet in the gears of the juggernaut of ever-increasing PPM of carbon in the air, and I see little made of this collateral benefit.

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### Climate Careers

Climate careers are not a traditional cluster you can point to, like engineers or accountants. As you just saw with Zoom, people may not notice the job is being done. Let’s look at intent of your work and not dwell on specific titles and functions. I expect you don’t want to waste your shot (like Hamilton) for your life and your work. You want your work to add up to the greatest effect possible. That’s intent.

Did Eric Yuan develop Zoom to decrease the carbon emissions? Did people go to work at Zoom with that intent? I can’t know their motivation, but I see the outcome. Often the military talks about collateral damage. I like the idea of collateral benefits. Zoom was either in a long gambit to decrease fossil fuel burn or they were interested in providing better distant communications; maybe both. If it’s only about communications, then the reduction of carbon emissions is a collateral benefit (gift) we all got from their good work. We could use more of that. In this case, the profit for now is in the communications. Later, it might be that

governments or companies will pay for the benefit, the savings involved in reducing carbon emissions. Maybe it's already happening.

## Problems, Money and Career

Careers start with problems and problems are where money lives. Once you identify a problem, it's a laser to focus your efforts. That goal is motivation to apply your resources to solutions. Direct problems like lost revenue, wasted resources, increased health costs and lost time, drive organizations to find solutions. The long gambit involves solving one problem to create collateral benefits that solve a different problem, like Zoom. That second problem may be difficult to fund or unpopular to approach, and political savvy may dictate less obvious routes to the goal. That's why the collateral benefit strategy deserves serious study.

Problems always have money orbiting them; costs of solving problems, costs for deferring them and of course, money from solutions. Zoom solved the problem that earned money and they contributed to solving the problem that is more difficult to monetize, carbon reduction, along the way. That's elegant.

There will be those who benefit from having the problem fester, Big Oil for example. As you carefully define the problems you want solved, you move in on your career by finding the organizations and people who have the problem and the funds for solving them. You may need to help the client or employer find funding for a project you believe worth doing. Fund it yourself if you can when you believe in your goal and process. This could be more satisfying than starting another brew pub!

## Collateral Damages

The collateral damage side of the equation deserves attention. Big Oil was damaged by the pandemic as Zoom benefited and the demand for fossil fuels plummeted. Zoom will carry forward their advantage as they advance their technology and users find benefit from remote meetings, classes and solutions beyond the pandemic.

Social isolation and difficulty in turning remote learning into positive learning are a couple of fallout effects from the pandemic that didn't turn out better due to Zoom. This isn't a fault of the Zoom folks, but it wasn't made any better either.

Why look at damages? Because those damaged by new solutions want to solve or avoid their problems too. Watch your back as there are huge stakes! The road is strewn with broken solutions competing with the oil industry, as an example. Look for opportunity among those damaged. You may see a way to turn their resources towards your long-game goals; solving the climate crisis problems and in the process find a client or employer.

# Strategies for Searching and Supporting Your efforts in a Climate Career

This section will provide additional ideas for improving your search for climate careers and green jobs as well as opinion pieces about climate careers and the people in them.

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## Drilling for details to find better green jobs

Imagine your new jobs sounds just like what you were looking for. Plenty of opportunity to use your skills, capitalize on your experience and make a big difference on climate change. Then you find after a period of time things are not what they seemed. Maybe you wound up in a green-washing effort for an employer who is staving off the inevitable to pull in more profits. That means drill down for better green jobs and to avoid a career move that doesn't match your aspirations to do good on climate issues.

Maybe the job title you got is what you expected. Your duties lined up with your expectations. Then you learned resources were withheld. Or maybe the clients you were assigned weren't honest about their intentions. The boss knew it but didn't tell you. They cut your funds just when you were getting results.

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## How to Drill for Better Results

Yvonne Chouinard talked about this from a buyer's point of view at his presentation here in Santa Barbara. Materials for his Patagonia products come from a variety of sources that he found said the same desirable things, but there were differences. Organic cotton might be more destructive to the environment from one supplier to the next. Or maybe the recycled materials were inferior and made from

something toxic. Without doing the homework to find out what the terms meant on the ground, he didn't know what he was getting.

Make good decisions about employers and opportunities you are offered. Drill for details to get a better green job. Takes this a 5-step process for your due diligence. Assure you are landing a situation that you want.

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## 1. Look for Reputation

As you learn about an employer, ask about their reputation in the field. What do others in that field say about their integrity? Do they follow through with their work to completion? How do they treat employees?

This will likely require talking to current or former employees. You can find a few employees describing their concerns about ethics or environmental policies run awry.

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## 2. Follow the Money

What is the main source of the employer's income? Specifically, is this a climate problem solving organization or is their main income from something quite different? Some, maybe most large oil companies hire people for environmental and climate jobs. At the same time they have no intention of making that a major part of their organization. When 1 to 3% of the corporate investments are in green projects, you should know this isn't their future.

Ask, people who know the industry, is the employer saying they have one goal, but really benefiting financially from another?

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## 3. Ask your Mentors

What does your mentor know about the employer and what about the industry? Is there a way to spot unethical behavior in the industry that will help you ask better questions?

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### 4. Read what the press is saying about the employer

Start local and move up to regional and national for larger employers. Don't expect to all be glowing reviews. Pay attention to obvious controversies that affect the division or office you might work for. Look at their income streams to tell where their main source is. If their ads say they are hot on green industry and news stories talk about their production of extraction, big agriculture or how they are obvious despoilers you've heard of (oil, plastics, "natural" gas, etc.) this is a red flag.

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### 5. Check if the value of the Climate Project outweighs the Environmental or Social Damage it causes.

Some projects involve well known techniques to address climate issues and still present significant problems. Some examples: A wind farm proposed for a low wind area because of bad politics or underhanded financial deals. A solar farm is encroaching on endangered species habitat that was not addressed adequately.

Because it looks green doesn't mean the employer isn't corrupt. Do your best to see if the projects add up for good climate interventions. Look at the neighborhoods impacted. Too often low income families have been negatively impacted by unfair industrial and transportation burdens. Without the resources to lobby or bring legal suit, they have been forced to suck up the worst of industry. Let's make sure they benefit from the green shift and not green shit!

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### What if you Miss the Indicators?

Do your homework to drill down for the details for better green jobs. Expect you may discover most of the obvious problems. If, or when you see a real problem

have a plan. Get ready to jump to your next job fast. Expect no job will last forever! We are going to address that later in tis book! You should start looking for your next job as soon as you start the present one.

While you are with your corrupt or incompetent employer use the opportunity to learn skills you can use for your next job. Develop contacts across the industry to help you move along. Being careful about limiting your responsibilities to non-corrupt practices is not just necessary for your legal future, but for your reputation as you move forward. Learn how to carefully and accurately describe you roles and the actions you took regarding corruption in your employer's scope of business.

Your employer's problems are not necessarily yours. If you are not a principle decision maker in a corrupt or failing business, new employers are unlikely to blame you for your boss's decisions.

# How to Make Your Climate Job Search Payoff

## Contacts Make it Happen!

Once you have a contact in the field you are on your way to make job search payoff! Ask your contacts where other people do the work you want. Ask what other titles people use when they do this sort of work. Don't ask if they know where there are jobs! If they know and want to tell you they will.

I use the term "contact" and you will find out that these are people who deserve your gratitude. Often a contact is a family member, or a friend of family. Some contacts you have will befriends and their family members. As you expand your scope of contacts, the relationship may be less personal. All along your journey among these people, think of ways you can pay back and pay forward the kindness and value you received. A small note of thanks is of great value, to them. Letting a contact know what you learned means you valued what you received and took time to share it back to them. Sharing knowledge of what you learned might bring them something new as well.

We will come back to networking and contacts later in the book.

## Use Creativity to Make Job Search Payoff

The reason for engaging your contact's creative process is to include as much of the **appropriate** workplace market as possible. They have experience you don't! Tell them how valuable they can be! Learn about competitors, colleagues or people in a completely different fields. Who are these people working on this same set of issues and problems? What are their degrees, experience? The broader your scope in the target area, the better your search. Stay focused as you are keeping your defined problem as the target. What you will find is there always wonderfully different successful approaches to solutions. This is the road to make your job search payoff!

Ask your contacts to name people you can meet. Emphasize you are not putting the bite on their friends and colleagues to get you a job! It is so much more important that you emphasize your need for information and opinions, not that you are expecting jobs openings. You want people continue to help you move forward.

Ask for sources of reliable information regarding your chosen problem and where people are sharing information who work on that problem. Learn about associations, conferences, websites, blogs, newsletters, newspaper any source that can help you see how the problem has developed to this point. Pay close attention to the vocabulary being used. Vocabulary is key to start identifying those in the know and you sounding more expert in the field. Read everything, keeping a list of organizations and people's names as you move through your source material. Use those names and organizations in your searches to learn more about their successes, contracts and reputation.

# How to Mine for Career Trends in the News

## Start mining!

I spotted a half page article in the local *Santa Barbara Independent Real Estate* paper yesterday. Dennis Allen's *Going Green* column became a favorite a year ago. It's deep within the real estate pictures of the homes and ranches for sale. I am always interested as he covers a variety of environmental and climate topics from his perspective as builder/architect and trends in the news. In this case I want to show you how to find your climate career by mining the news for names of organizations and people leading the trends. This is mining for career trends in the news

Allen's story this week is "Collaboration to Decarbonize Heavy Industry." There is nothing about his article that tells you this could help you find a job or help you think about a career. Neither word appears once! Don't let that dissuade you from such articles as they can be rich in information. They will provoke your thoughts and provide you with leads for your investigation of trends that have, or will produce new jobs and opportunities.

What IS in the article are the moves that are taking place that will create jobs and careers and the names of industries and organizations involved. This is a fine starting a file of names and the ideas that can lead to your next career move.

## Green Banks

Allen says the finance of this green move involves "green banks." Are there banks that advertise they are green? I hadn't noticed that term for a bank, so I did what we all do, search the internet and came up with this piece:"2020 showed that green banks are a global movement in the making," in Greenbiz. Start looking, there are more articles you can mine if banking is your interest. Great!

I promptly book marked Greenbiz.com into my folder for banking.  I learned being a green banker could be a career. Earlier I found financiers who specialize in sustainable industries for mutual fund investors. Others glean investments to determine the percentage of fossil fuels and fossil fuel infrastructure is involved. That in turn guides investors who are avoiding fossil fuel investments. Try "sustainable funds" and see what you come up with.

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## Talk to people in the field

Often the search begins with stumbling across a term or trying out an idea to see what might be happening that could lead to a career. In addition to your internet searches, I highly recommend going to people in the industry. Talk to a banker about the green banking movement you have been reading about. Ask about the "green" efforts of that bank. So far, I've not heard of the Green Bank of Nova Scotia, or anywhere else, maybe it's coming.

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## Identify Organizations in the News

Let's go back to Allen's article. He names Mission Possible Partnership (MPP)as a global coalition. First, that tells you MPP didn't start the day he wrote the article. MPP is well enough established to be called a global organization and that takes significant amount of time to pull together. There is history there to investigate. What have they accomplished? Who are the people? Unless you are well established yourself and have experience related to their work, this isn't a rich find. But if you are, this might be the jackpot. What it might lead to could be useful and Allen takes us that next step in a moment. Rocky Mountain Institute (which received one of the climate contract awards from Jeff Bezos recently) is named as a supporter of MPP. If you search for Rocky Mountain Institute and Amory Lovin, you will find tons of information about that organization.

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## Use Organization Names to Search for more Information

While you may not find work at any of these organizations, this is important information for you, the career seeker. First, there is a serious effort forming under the idea of green heavy industry and the 400 organizations in MPP who committed to the idea. While Allen's article only names Rocky Mountain Institute you can find the others readily by looking at the MPP on line or in the news. Here's a start.

As you do your research remember, for every listed organization there are others that have the same interest and concern. They might not be leaders, but could they use your help to get on board? Some haven't recognized this movement is taking shape and may change policy around the world that will affect their operations significantly. Others haven't anticipated the competition may have an advantage for being in the forefront and developing new green technology that will meet the new guidelines for funding and receiving the contract awards.

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## Looking for Broad Strategies in the News

Allen's article continues with strategies for moving heavy industry to decarbonize. It also happens, by the way, to mention the US Government's move to invest in infrastructure which is going to require the skills and products of this major industry. Does this sound like money and jobs? It should. How fast will this happen? Watch what happens in congress these next few weeks, that's what is being decided.

Policy makers can help drive decarbonizing in industry as the bid specifications are written and the contracts are set out for bid. Are companies with advance techniques like Boston Metal (also named in Allen's article), are they likely to secure funding in this new industry transition? Sure, why not? California, New York and New Jersey, according to Allen, are awarding now to companies with the greenest processes for the new contracts they award.

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## Not into Heavy Industry?

I know this isn't the industry for all of you, but if you follow this process on fields of interest to you , it can pay off handsomely. Take apart the article as we did here.

Follow up the leads, find names of people who make the decisions and organizations to help you make your next career move and find your climate career by mining the news.

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## How to Use your Research

When you talk to your contacts, bring up your research about the industry that interest you. Ask them what they know about trends you have noted. Find out if there are local, similar policies or moves in the same or related industries. Words and terms count, that's how you find your next lead. Ask your contacts about key skills you will need for the transition to the new field

When you do information interviews, use your research to ask they are positioned with regard to new concepts. If they don't know much, ask them how these trends might be important if this new trajectory takes off. To look interested, you need to know the problems and define them in the words and terms of the industry. If you want to look like an expert, start sharing solutions to the problems. The best sharing is a proposal to shake things up and create your next job.

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## Potential careers related to green heavy industry (there are always more than listed here)

**Banker**

**Architect**

**Finance officer**

**Investor**

**Contractor**

**Trade worker**

**Civil, Materials, Electrical  and other Engineers**

**Heavy Equipment Operator**

**Inventor**

**Metal Fabricator**

**Surveyor**

**Geologist**

**Inspector**

**Public Policy**

**Lobbyist**

**Legislator, all levels**

**Government Administrator**

**Public Affairs**

**Public Relations**

**Buyer**

# V. Make Your Climate Career Move
## Where are the opportunities?

**This is the section where we talk about mature career folks who are ready to do something worthwhile as a career. If things have matured beyond what you wanted and you have lost your way, there's nothing better than a planetary crisis to start the engine (electric) running again start the next chapter of your career.**

I hosted a blog and that became the book with many revisions and additions. I started the blow when I saw there was significant interest among concerned professionals about making a difference in the climate crisis. This came up when Emily Aitkin started a thread using a *Heated* reader's question about making a climate career move as a consultant. I decided my experience in career counseling should go to work to prepare an army of creative problem solvers to make this happen. So I started recruiting people to work on climate issues!

It doesn't matter about your current status. The "climate crisis" is motivation enough to draw you here. You may have jumped to, "how do I get the job?" Good for you! But, take a step aside and evaluate your focus before jumping in. Climate crisis is too much problem for any one of us to solve. Let's capture your motivation to drive your career to the greatest impact. What gets you most heated? That will inspire your passion, help get the job and solve the problems. Without that you might slip into a back-stream job without traction to create solutions you believe will help.

ALL can serve. We need so many people to engage this monster! If you are heated for this then it's personal and you will stay focused and making contributions! I want to see you make the biggest contribution you possibly can. While you are at it, look for the ways to focus on social justice as the least responsible folks are among the most impacted by the climate change problems.

## Roles for Climate Workers

We need a way forward that funds new jobs, develops political will for funding alternative energy and to make millions of houses and structures more efficient. Social organizers are necessary to make politicians accountable on climate crisis. Who is going to force fossil industries to transition from misinformation, coercion and extraction to use their resources to move us faster into renewable energy? Maybe that's the climate journalists like Emily Atkin or government regulators and politicians. These ideas might prime your pump on YOUR thoughts of what we need. That's the most important part. I want you to engage all your energy for the biggest punch possible in this fight for our planet. That's why you need to make this fight personal so you don't run out of steam because you aren't in the right part of the fight.

## Where do you fit in?

Next, you might think you should just do what you're best at. Maybe. It might be more valuable to apply your current experience with new focus and skills to become even more valuable as you heighten your motivation with your next career move and work with a like-minded team. Define your move in terms of the specific problem you want to solve. Find potential employers/contractors as partners with resources to solve that problem.

It's possible you don't yet have expertise or skills to solve the problem of most concern. Climate won't wait, so if possible, jump in now or look for the quickest way to get the skills or knowledge you lack to get up to speed. On-the-job-training is often the only way to prepare. If you already have career experience, focus your existing skills in this new setting.

Where to jump? Look at the organizations that impress you most with their climate work. Look for news about funding of climate projects (like the Bezo's grants) and the Project Drawdown that lead to contracts and positions in fields you like. Watch as government rolls out new policy and funds for contacts. Ask everyone you know for contacts in these organizations and careers.

## Jump into the climate career market

Be bold; talk to people who do what you need to do in organizations you respect. Ask what problems they work on now, ask how to make the jump, and ask what to bring to the table to get hired as a contractor, as an employee, as an intern. Ask people you contact who has solutions and plans that are viable. Repeat the investigation. Do it face-to-face. Get introduced by people who know you. Follow up with leads and feedback to people you visit. Let them know what you learned and ask for more help getting where you want to be.

## Transferable Skills

I read about the desperation fossil fuel workers have about losing jobs as the transition to renewable energy progresses. The current administration is bent on keeping those jobs in place to the detriment of our many climate crisis results. A swing one way and then another is disruptive for everone. One worker lamented, his father and grandfather had done this work and he was so steeped in the coal industry there was no place for him in the future. This is a very real, and deeply embedded concern. Other displaced workers have had significant trouble for as previous industries downsized and robotized or jobs were sent off-shore.

## What are Transferable Skills?

At the U.S Bureau of Labor Statistics early in the last century, analysts began the work of pulling apart the work that people were doing across fields. What they learned then is still applicable today. There are very few skills that relate to one job or one field alone! Every highly specific skill is balanced on a number of simpler and highly transferable skills.
If you monitor equipment by reading dials and over time build experience that tells you what you feel from sounds and vibrations matches what you see in sensor-based dials that skill is of great value to an employer because you know what needs to be done based on the information. In some rare cases, you will know when not

to believe the data and depend on your learned expectations of how things feel. If those dials and machines are part of the oil extraction or refining industry those skills are readily transferable to alternative energy and storage. This simple skill example will be repeated over and over for a multitude of skills that are manual, mental, memory, manipulating, monitoring throughout both industries.

Liquid air storage exampleLiquid air is being successfully used to store energy from renewables in a plant that won't be too foreign to oil industry workers: **https://www.youtube.com/watch?v=tMLu9Dtw9yI&feature=emb_logo.** You can go review this video to see the plant and the working parts. As the presenter says, this is a good fit for oil workers looking to find a new home in this transition. Skills are going to be the same while the equipment is only a little different and the transfer should require on the job training to become familiar with the particulars of the new plant. This is one of more obvious transition demonstrating what it means to transfer your skills to a new industry and it is in its roll out stage. Others will take more of stretch of imagination.

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## Transferable skill problems

There are two problems related to transferable skills. First is the problem for workers being able to recognize they can work in a different industry. The second is for employers to see that workers from another industry have skills they need. This rolls into one, two-part problem for the worker:

a. convince yourself you have skills that transfer and

b. convince the new boss you have skills to transfer. If you think this is only a trade or tech problem, it is real in the professional world too.

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### Analyze your skills

Describe what you do. In detail, write out what you do as you might for someone who could step into your job tomorrow. Take a break and then take each one of those statements and break that down so you could tell a five-year old what it takes to do that. Having fun yet? Probably not! But it is worth doing!

The point is the second level has little to do with your industry and a lot to do with why your skills will transfer. Those second level, micro-skills are independent of the field you work in. Those are highly transferable methods, actions, thoughts and all of them skills you can use in a new field.

This process takes time and if you feel you are not getting to the necessary level Richard Bolles' book, *What Color is Your Parachute?* Your library will have some edition or you can find a copy on line as this book has been updated repeatedly since 1974. The section on skills and transferable skills will provide more detail for analyzing your skills.

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## Identify your target career

Go back to the core of this book with the three sections on The Active Process in Three Steps, this is the key to arriving at the climate career in a green job you like this time. You have to do the work to make this happen!

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## Convince the employer of your skill-transfer potential

When you approach employers, you want to be the one making the bridge from your past experience and the work you want to do now.

1. The employer should be able to see you have transferable skills. The employer will also be more impressed if you made the connections and can describe your skills for solving the employer's problems. This shows you have motivation, flexibility, imagination and creativity. All of these are skills themselves that demonstrate you are ready to make the leap unlike the fellow who yesterday said he couldn't "imagine" doing anything else! Would you hire him?
2. The employer may not be able to see the transferability of your experience and skills. Not everyone hiring has the ability to see the benefit of obtaining people from a different experience and industry. That makes it your advantage to show that employer you have what it takes to

bridge the gap and make the move. Learn to talk about what you did on your past work and how it fits your new industry.

3. Describe the advantages of bringing your years of experience to this new field by showing how you solved problems there and how you can innovate by using those solutions in this new area.
4. How are you going to know what the work is about? Help is available in the form of current workers. Before you go too far with this, go visit people who do the work you are thinking about. Use your contacts to ask about the possibility for site visits to see what they do. If that's not possible, ask them about talking over coffee about the work they do and ask if there are videos available or text material describing what people do.
5. Go through your skills analysis looking for those skills you could use in this new field. Your talks with people in the new field can help you focus what you were doing to start thinking how you can help do the work and solve problems in this new area.

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## Conclusion

This is not an easy process as you don't control all the moving parts. What you do control your imagination. Start with your imagination to make this transition as that is your strongest tool you have. See yourself in that work!

Just as we started, remember, very few skills are used in one job or one field alone! Every highly specific skill is on the back of many transferable skills you can take with you to a new field!

# Your Career Rippling Through Society

You probably already recycle what you can. Maybe you write letters to legislators and sign petitions. Your reusable water bottle goes with you everywhere. Good for you! Now let's work on making a ripple with your climate career that reaches far beyond your personal choices at home!

The climate problems are expanding faster than our efforts. The idea of our "carbon footprint" was foisted on us by the fossil fuel industry. First British Petroleum (BP) launched this carbon footprint to make individuals feel responsible for the mess they made. Clever eh? Than they suggest we can solve the problem while life continues the same. We are not solving the problem. Maybe life was sorta the same. Now it's not. At the same time the fossil fuel industry is pumping more and more carbon into the atmosphere, regardless of what they say. Its time you and all of us start a ripple bigger than the personal choices you make. Do it with your new climate career!

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### Why use your career for rippling?

1. Your career is the commitment that you make daily, if you have a job. Americans work about 2000 hours a year at full time jobs. If their job is a salaried position the totals are often 2500-3000 hours annually. It's not uncommon to find workers with multiple jobs and salaried folks putting in far more than 3,000 hours annually. Work you do on the job adds up to a major part of your waking life. I mentioned earlier the 80,000 hour figure as a nice round number for 40 years of work at 2,000 hours per year. It's a serious bite of life!

2. Your career is often paid work. It might surprise you, but I include unpaid work as career work as well. For the moment, I'll focus on the paid workers. When you are paid you have the money to take care (some) of your needs and that allows you to focus on your work. That opportunity to focus on specific goals day after day means you likely can accomplish a great deal.

3. Work is usually a team effort in our modern world. That could mean you benefit from sharing ideas and information on a daily basis as you solve problems you work on in tandem with your team.

## Working for an Employer

1. Working for an employer gives you access to the tools and resources the employer has. That means you go to work where you will find the space, shelter, materials, funds and opportunities to apply to your ideas to solve the problems your employer has chosen. Or, better idea, you chose first and then chose your employer based on those resources and the problems your employer is working on.
2. Working for an established employer is a quicker way to gain recognition in the marketplace of ideas and solutions. As an individual it can take much effort and time to establish your brand. When the employer has a brand that is lined up with your objectives consider this a short cut.
3. Leaders in organizations have an opportunity to make a broader ripple with their career as it touches broader and broader horizons. You can affect more people with your ideas and solutions.

## Working for yourself

1. Starting your own organization, company, non-profit, etc. could allow you more discretion to chose. You chose the problem you want to work on. You choose the people to hire. Targeting the people whom you want to influence is another opportunity.
2. Before starting your own organization you can benefit from working for other employers where they learn the skills, develop contacts, build their knowledge.
3. I've met entrepreneurs who skipped working for others and made their operation out of nothing. One friend who did this said he didn't know it was

exceptional. He didn't know he couldn't do what he was doing without a Ph.D., but he did and very successfully.

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### Choosing what is worth Rippling about!

Don't abdicate! What I mean is, don't let someone else decide for you. This is personal. So do your research before you start searching.

# VI. Essays on Climate Careers and Green Jobs

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### No one cares like you !

Do you need to know how many green jobs there are? How would that help you? How many do you need? One full time job will probably do it. Maybe you would prefer having two or more part time. My friend said he liked the variety of three jobs for a couple years when he went from job to job. People and activity varied quickly which he found more stimulating than a single job.

If you don't have a job you like, no one cares like you! No matter how "good" the job is or how well other people regard your job, it's still you doing the work with the people at work. If you don't like it, it's probably time to make a change! Don't wait for the green job market to mature to go find what you want.

What I have observed is how often people decide the job market isn't right for them. Often that's based on thin evidence. I met people who decided they didn't have the right skills or the right degree. They gave up pursuing what they wanted. They wanted to hear, "People are hiring at XYZ, you should go apply!"

The job market for you is based on three things I opened this book describing: 1. Finding what you want, 2. what your attitude is and 3. how convincing you are that

you have what it takes to get the job done. If you don't have these steps in place, go now back to the beginning and make the effort to understand why this is so important to your career future! You don’t need to wait for the market to have hundreds of open jobs doing what you want to do. You can’t do them all anyway! In a “good” market you might not try hard enough to find a custom fit. Do a great job of figuring out what you want and then make it happen! No one cares like you when the job doesn’t fit!

The market always has openings at the same time there is high unemployment. It just might not be in the same location.

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## 1. Find What you Want.

Start a local search. Begin with a clear idea of the job you want. Decide on the problems you want to solve. Then look to see what employers are working on that. That’s your target. If one employer is offering positions that’s easy. If not, start your research. Are they solving the problem? What could you do that they are not?

Ask employees for the information to answer your research questions. Read the local new sources about the employers. Start formulating a plan to help solve the problem you are interested in. Hone your solution to a concise proposal you can deliver in a few minutes. Use your proposal in an interview when your position comes open. Meet the people who can decide about hiring. Ask them how they see the problem you developed. Maybe that will be the time to discuss your prosed solution. Or you may find you need to learn more to improve your solution.

It is entirely possible there is no potential employer for you locally. In that case, increase your geographic scope. Ask everyone you know who is working on the problem you want to work on. Do the internet search as well. Focus first on a geographic location where you would be comfortable. Trying to look everywhere wastes your energy. Repeat the above steps as you eliminate your favorite geographic sites.

This is a bare outline of the process of looking for location and employers or clients. Go back to the main part of this book for the section on job search. Do not rely on lists of jobs to find your next job! That does work, but it should not be your

only job search tool. Employers make most their most important hires without listing at all. Remember, if your job doesn't show up in the list no one will care as much as you do!

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## 2. Your attitude should reflect your enthusiasm!

Be active! Go look for what you want. Indicate how you identified the problem you want to solve. Share what your plan is to for working on the problem. Let employers know what your research revealed and why they need to implement your findings. If you find a listing you like, make sure you project a more active attitude than the passive job searcher.

Work is generally a shared activity. Impress your potential employer you are fun to work with. Make the effort to demonstrate your ability and willingness to communicate and solve problems at work. This is not usually part of an interview process, but it's crucial. The boss wants to know you are dedicated to solving the problem at hand and you are capable of doing that in concert with the rest of the staff.

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## 3. Convince the boss you can do the job!

Examples are the most convincing evidence you can provide. Reach back in your experience and describe how you solved other problems. Relate that to the problem you want to solve for this employer. Even if the boss can make that connection the boss wants to see you connect the dots. Provide enough data to show how you are thorough and how you work with others.

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## Problem focus

Why did I start with the problem? That's why employers hire, to solve problems. Problems are where you find your motivation too. Solving a problem is the way to focus on work worth doing. That means satisfaction for you.

## Conclusion

You only need one job! Now is the time to make your move. Getting a good job is not about how many jobs are open. It's about spotting the problems that are costly and being able to solve them effectively. Problems are often at their greatest when the job market is poor.

# Beyond the Climate Activist

The one climate career that everyone would probably agree is essential is that of the climate activist. Certainly, Greta Thunberg comes to mind, along with writer Bill McKibben and actor Jane Fonda. Some people have found paid positions as activists, climate community organizers, and lobbyists with nonprofit organizations. The Sierra Club's Beyond Coal campaign, led by Mary Ann Hitt, has successfully facilitated the closure of 318 coal-fired power plants across the United States, many during the first Trump administration. Activists can make significant contributions, and not all of their work takes place in the streets.While this route may be a calling for some, others might admire the activist's role but not see a place for themselves in it. This is an invitation to look beyond activism and explore the careers that build what must come next. We are in the process of "building an airplane while flying it" as we move into the future. Isn't that an interesting use of the word "career"? While activism remains vital, we also need people to "pop in rivets on the wings," navigate the course, and fuel the system in ways that keep us on track. Even better if we can turn this airplane into a rocket that propels us faster toward a sustainable future.

What is needed? Money! We need fund raisers and financiers to be climate people and to think of the best way to finance climate positive infrastructure and energy alternatives for a healthy planet and all the passengers human, animal and plant. The risk is not that the quarterly return will be too small, the risk is that we will run out of quarters. When it came time to finance oil exploration and extraction in the arctic, the big banks found their social license running out and therefore the cost of doing business and the risk of funding more big arctic oil projects were both too high. We need someone to show big oil how to find the way to use their resources to make the transition from burning the past to lighting the future with renewable energy and make it too financially risky to keep doing business as usual. We need a way to show them their social license is out of date and they need to avoid the risk of over-investing in more extraction and literally die of sunk-costs.

Let's do a little side bar here. You might have read about big impact as a goal that appealed to you. You also may have decided you aren't the activist type. So here's where that idea of donating to a big impact project fits. If you like Hitt's success in shutting down 318 coal plants, and who doesn't? Then you could find people like her and donate to their projects and make sure they are more successful. That's a big impact while you do what you do best!

What else do we need? Once the activists have the public's and politician's attention on climate issues there will be a need for research on the best legislative, funding and administrative tools to place government funds and to create regulations for the greatest and fastest effect. Legislative and campaign assistants and researchers with deep understanding of the climate crisis are necessary. In the past we have had environmental impact reports. An industry grew up around that process. Do we need climate impact reports to look at legislation and to rate all legislation through that lens? Where in our airplane we are building will we have people looking at all the intended climate outcomes? At the same time we need those looking at the social justice possibilities to guard against negative consequences.

Certainly we have people hard at work designing and building solutions for climate problems, both hardware solutions to climate problems. We have electric cars, improving batteries, better wind turbines and cheaper, better solar cells. Driverless cars may yield a collateral benefit of using less energy as they improve traffic flow and possibly unsnarl gridlock during "rush hour" which lasts all day. We have communities planning for sea level rise and people designing and building solutions to sunny day flooding and storm buffers. If you look for your place to get started pay attention to these people already making a good efforts. This is the review part of your career search. You have to make the effort to figure out what's already happening and then pitch in where you see your skills are needed.

What else do we need to build? While we are building this metaphorical airplane we are hurtling into the future in (and there is no alternative transportation by the way), we might look at all the things we take for granted.

We might think cars are necessary and so we are improving cars when maybe we need a totally different solution to the human movement problem. Being able to re-structure the problem might be the most valuable way to solve it.

I cannot see all the climate needs or the many inventive ways to solve those problems to make the future brighter. Therefore, I suggest you wring these ideas from your own experience.

1. Start a list of climate problems that you think "someone" should do something about. Those are often at the heart of your biggest concerns and motivation. Maybe you are the someone who should do something!

2. Put the list in order using this grid where you compare your top picks with each other concern. If you have trouble with this email me (nord.nord@gmail.com) and we can work this out. It's not always intuitive to everyone how this results in a priority list.

# Prioritize Climate Issues

| 1. Sea Level Rise | 2. Climate Impact on poor | 3. Loss of Coral Reefs | 4. Lethal Heat Waves | 5. Battery production costs | 6. Oil extraction in Arctic | 7. Human Migration | 8. Increase in disasters | 9. Energy inefficiency |
|---|---|---|---|---|---|---|---|---|
| 1 vs | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 vs | | 2 | 2 | 5 | 2 | 2 | 2 | 2 |
| 3 vs | | | 3 | 5 | 3 | 3 | 3 | 3 |
| 4 vs | | | | 5 | 4 | 4 | 4 | 4 |

1st make a list of climate issues giving each issue a number. Next place them in a grid as above. Third, compare one with each other listing your strongest concern issue in the box. I preferred 1 over 3 so I put 1 below the 3rd item "loss of coral reefs" indicating my choice. Finally step 4, count the number of each of your numbers on the grid (all the 1's, 2's etc.). The item with the greatest total IN THE GRID is your highest choice issue. In my example it's #1 & 2 tied: "Seal Level Rise " & "Climate. Impact on Poor" each have 7 preferred comparisons. Had I completed all nine it's possible this would change.

3. Once you have your priority list do the following:

a. Search for people who are working on that problem now. Ask them how they approach this issue and what resources they have and what they still need.

b. Start a new list of possible solutions for each of problems.

c. Any time you have a list you may find it useful to put that list on a grid as above and sort out through this forced choice method. That should reveal what is most urgent or important to you. Some of you will hate the process. If so don't use it!

# Climate Careers and Social Justice?

As I read the arguments about social justice related to climate change and environmental issues I see the obvious connection. The people of this world who contributed least to our climate and environmental problems are unfortunately the ones earliest at risk and experiencing the greatest risk from negative climate consequences. It makes sense to look at Social Justice and Climate Problems at once.

Climate Social Justice means mitigating the negative effects of the climate problems you seek to solve by focusing on those most harmed. Social Justice means understanding people most likely to control the funds and define the issues are not representing those who need the most protection. When Katrina inundated New Orleans evacuation was exponentially harder on those with fewer resources. Those with means had private vehicles or booked flights and had funds for places to stay. School buses sat idle while people did their best to escape. When the same hurricane resulted in loss of homes and businesses, that pattern was repeated, the least well-heeled had the greatest losses. More people of color lost their communities as well as their homes, jobs, and businesses and more lost their lives. Katrina is a model for the social justice inequities. Since Katrina public evacuation transportation plans have unfolded, and not without problems. Social justice in these disasters requires our plans begin with the least resourced among us to frame the problems with inclusive understanding. It is a necessary part of the job in a climate career whether that focus is energy transition or disaster response. All solutions need evaluation for effects on jobs, housing, transportation, health, education and on across the board as we do our best to make good decisions.

If the problem you are planning to attack through your career is transition of transportation away from fossil fuel, how will you address the social inequities? How do we transition a coal miner or an oil field worker to a position in alternative energy or something they choose in different field? As we transition from fossil fuel what do the families with small businesses do for a living when their small gas station closes? Or the job at the refinery ends? The industrial revolution is a history of displaced people as jobs were lost or housing cleared away or communities

wracked with pollution. Solving these problems mean jobs for creating solutions and alternatives.

If those able to buy or lease a non-fossil fuel vehicle qualify for incentives is that addressing inequities? I benefit from my neighbor's electric vehicle (EV). It creates less pollution near my home and eases the burden on my lungs. It puts 40% less carbon in the air than a similar car burning gasoline even if the electricity is produced with fossil fuel. Why would it matter who owns the EV? I may not have the money to buy one even with incentives, so I will pay more for fossil fuel or use public transit. If my neighborhood is economically depressed there will be no EV's helping to clear the air nearby and my benefit from an EV anywhere in the world will be less carbon in the atmosphere. That benefit is still good for me and my family. You may have to work harder to have me see I need this more than clean air and safe transportation or a job where I live. The inequities increase when we find poorer neighborhoods are more closer to industry emitting pollutants and freeways spewing toxins, some devoted primarily to heavy diesel truck traffic. All of this coupled with less money, less education and generally fewer resources and options is part of the problem set involved in social justice related to climate mitigation.

My goal is to inspire creation of careers that solve social justice AND climate responses. Trying to solve climate problems without eliminating existing social inequities and the possibilities of creating more of the same is an important key to progress. When we saddle those who were least responsible for creating the climate crisis with the negative consequences, we sew in injustice, dissidence and continuing social burdens that cripple people around the globe who did not sit at the board room table or on the government commission to help form the decisions. Long-haul climate solutions require political will at the ballot box and in the street as well as administrative, business and legislative support so we have a continuing mandate for solutions that last long enough to see success. If broad swaths of society are left out of decision making, and/or not included in the benefits and left with continuing burdens there will be no long-term support. Already we've seen governments topple that proposed better approaches to climate problems but failed to develop the long term political will to take it back to the polls to win again and again.

While the burden of the climate crisis falls most heavily on those with fewest resources it clearly impinges all of us. In the US we incarcerate more people than

most. If you are a person of means, you pay for that warehousing of prisoners through your taxes. When a person of color is sick with asthma from the pollution they live with and they are unable to get treatment until it's an emergency it's a tragedy for the family and an expense for you, you are a person of means, as you support the ER response through taxes at much greater expense than preventative care and mitigation of the pollution.

Under-educated folks pay fewer taxes and have poorer health and contribute less to the market (certainly not the social/cultural system) so those with means experience a less robust economy than we could have. There are fewer customers than there could be and those customers have fewer dollars to spend. Worst of all, they have less access to the commerce of ideas that get funded or invented and we throttle the diversity of ideas and solutions from emerging from a vast swath of humanity. I want to tap all the ingenuity available for solving our problems.

We just looked through the lens of your monetary interests to see how you might be affected by inequality even if you didn't think it was your problem. We also need to embrace our world as a community for the most humane ways to solve our problems. Social justice is a simple idea of the golden rule, looking out for each other and making life better, not just an economic anchor dragging us down. In the end, isolating on a private island with buckets of riches is an untenable personal solution even for the mega rich. We are in this together.

In the US as with other elected governments, we have to reach those opposed to solutions to climate issues, indeed, remain entrenched in denial. They need solutions to stimulate vision (a worthy career goal) and a future for their families that involve jobs and housing needs too. Failing to create a sustainable model that results in re-election of climate change policy governments will jeopardize any climate response that has only a one or two terms for what needs to be an enormous and continuing response. We need people in the climate careers that make it their work to bring a long-term majority into agreement on the most important of climate change responses.

# What Can you Do about Climate Change if you are Retired?

For me, my climate focus is on climate careers. I've chosen to highlight the juicy problems that need solving, as well as the funding streams and resources that can support those efforts. My experience as a career counselor has taught me that success often lies in understanding where the money is, where it's going, and how to connect with the people managing those funds. Usually, I write for the general public, but this essay is for my fellow retirees.

A few years ago, I was on the banks of the Salmon River, deep in the Frank Church Wilderness, when one of the younger members of our trip—perhaps the only middle-aged one—spoke up during a campfire conversation. "You guys can't quit," he said. "You're too brilliant and have too much to offer. We need you!" I'd assumed he was talking about Frank, a truly brilliant man, but then he continued, "Just because you're retired doesn't mean you get to quit on our problems." That stuck with me.

Volunteering is a career choice. Activism is a career choice. Even hobbies can become careers in action, providing meaning, joy, and a sense of purpose. For retirees, these "careers" often come without the constraints of a formal job—no bosses, no performance reviews, and no clocking in.

So, what does a career afford you? Structure, purpose, and the satisfaction of contributing to something bigger than yourself. I see it in retired friends who help their families, support their communities, or volunteer with organizations.

America's vast network of volunteers—many of them retirees—keeps the country running, from election workers to specialized professionals offering their expertise for free. These efforts are vital to society and rewarding to those who give their time.

In retirement, you have the freedom to choose your role. You can support those still working, offer consulting expertise, volunteer, work part-time, or even launch a

new enterprise. The beauty of retirement is that you're free to limit the time, place, and type of work you do. No more fitting into someone else's box.

So what's the answer to the question, "What can you do about the climate crisis?" Climate writer Mary Annaïse Heglar offers a simple response: "Do what you're good at. And do your best." This advice is especially meaningful for retirees. It's not a call to return to your old job. It's an invitation to apply your skills and wisdom to a new challenge.

One place to look for inspiration is Third Act, a movement founded by Bill McKibben and others. It's a community of older adults leveraging their time, energy, and resources to push banks, insurance companies, and Big Oil to change their ways. This group of "great old geezers" is showing the world that age is no barrier to activism.

But maybe you're thinking, "Climate isn't what I work on." Well, think again. Everyone can contribute. Look at your skills, connections, and experience. Ask yourself: Who's doing something about climate that I could support? Who's doing something I admire? How can I move in that direction? I've seen retirees launch new businesses and nonprofits focused on climate solutions. Why not you?

As a retired career counselor, psychologist, and former Director of Counseling and Career Services at UCSB, I've seen thousands of people wrestle with career decisions. I've learned that climate-related careers are everywhere—not just for scientists and activists, but for problem-solvers, creators, and connectors. I've chosen to focus on helping people discover where they fit in the climate movement. Instead of trying to be something I'm not, I'm leaning into what I know best. This is my new gig—and yes, I've already got a "day job" as a volunteer, too. I'm teaching young students about nature and careers to help the climate!

So, what's your new gig? The climate crisis needs you. Not just your donations, but your creativity, insight, and lived experience. You've earned your retirement, but the world still needs you. You're too brilliant and have too much to offer. We need you.

I saw this tag line, “AnyJob Will Do.” The implication is that if you highly value tackling the problem, then you will be willing to do anything for the team. This is the bleeding edge of the idea of having a huge impact. While a commend-able idea, I recommend you scrap that “any job will do if” plan. I think you need much more focus than that. It might be Ok for a short term gig, but long term, it’s likely a burn out situation!

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## Motivation Is Imperative

Sure there are tons of things that need to be done. You can make a contribution to climate change problems in any of them. However, I am thinking selfishly I want to see you–and everyone else–make the most of your abilities and experience. That means motivation. Motivated people are way more productive over a longer time span. And that means a great impact on the overall climate change problem.

I know I can do mundane jobs to serve a larger cause and so can you. Higher self esteem results in longer lasting motivation which I get when I am operating with my best abilities and making an effort I chose.

I planted a several thousand trees five decades ago. I got paid to do that and I mostly enjoyed being out in the forest putting fresh saplings in the spring soil. Climate change mitigation was not a concern at the time, at least I didn’t know about it or know anyone who did. I needed money for college. If sapling planting had turned into my main job, I would have tired quickly and started looking elsewhere for more challenging work.

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## Proper Fit: Which Job will do even if it’s Green?

I suspect your motivation works similarly. That’s why I want you to take proper assessment about where you can make a strong effort and have a larger impact. Your work should be something interesting you value. It would help if you can do the work well or you are able to learn to do it well quickly.

I didn't write "strongest effort" here, as I know there are several things you can do that are of equal or near equal value. We need our committed people operating at a continuing high level to solve the hardest of the climate change problems as quickly as possible. That's why I want to challenge you to first figure out the work you are willing to do. Next, check your endurance to stay after that problem in order to make a credible contribution.

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## What You Can't Do

You can't do everything. Because there is so much to do, it is important to recognize no one person can solve this world-wide problem. A strategy to make a strong contribution and follow through with it over the long haul is better than diffusing your efforts over too many different projects.

A few people have become desperate in the face of the many vexing climate problems. That doesn't help. Step back and as we ran through here, look for your shot to make a contribution. Then share your experience with as many people as possible. Tell them how you got to your career and what they can do to step in doing their part. You can start the sharing by making a comment here about what you are presently doing about searching, assessing or working.

I have covered the job finding business in the main core of this book. If you skipped that, do take a shot at it and figure out what you **want to do, where you will find that work and how to get the job**. It's important to get that in order! Don't just try the Columbus Method of discover a green career and then settle on it! This is too important for that! So head on back to Page 2 and the Active Process of this book.

# How to Make Meaning In Life

**A Simple Formula for Meaning**

Finding meaning in life can be straightforward: love your people and contribute to their lives. Expand your circle by building inclusive relationships and engaging with a broader community. Work that is both meaningful and has high impact offers satisfaction and purpose. When you combine love and meaningful work, life becomes rich with purpose.

Meaning is personal, and throughout history, people have found meaning by tackling the problems of their time. While meeting basic needs like food, shelter, and relationships is fundamental, reaching beyond to solve greater issues—peace, justice, or the environment—can lead to self-actualization and realizing your potential.

**Making a Contribution**

In these critical times, it's vital to contribute meaningfully to our collective future. This involves meeting your own needs while serving others. Climate change presents ever-evolving challenges, from intensifying storms to unforeseen environmental threats like methane releases from permafrost.

There is deep satisfaction in using and developing your abilities to address these pressing issues. By focusing your efforts on climate solutions, you contribute not only to your family and community but also to the future of our planet.

**Finding Your Place to Contribute**

No one is expected to solve the climate crisis alone. It demands collaborative, large-scale efforts. Start by identifying what needs to be done and what motivates you. Focus on work that shows progress and can scale with experience. Find joy in the process of contributing—satisfaction fuels sustained effort.

Next, locate where your skills can be most effective. Consider the resources, support, and partnerships needed to maximize your impact. Success often depends on working with colleagues you respect, having opportunities to use and enhance your skills, and contributing as part of a team.

Meaningful work stems from solving significant problems alongside others who share your vision. This combination can bring career satisfaction and help create a livable future.

# People like you in Climate Careers

People working in climate-focused careers hold a wide variety of job titles. I've gathered a list of common titles to help you explore potential options. Even without additional education or experience, you might find that individuals with similar roles to yours are already contributing to climate solutions.

The reason I bring this up is to encourage you to consider how you could align your current career with climate change solutions. What if making a meaningful impact didn't require a major shift? Think about the role you have now—what steps could your organization take to address climate issues that haven't been explored yet? Alternatively, you might consider joining an organization where your existing skills and experience can directly support efforts to tackle climate challenges."

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## Titles to Consider

My list of titles is actually quite thin. I am sure it is not complete. However, there is breadth enough to suggest to you there are possibilities that may require less than you conjectured to move into making a contribution to a better future for our next generations and the planet as well as wildlife and habitats.

Accountant
Accounts payable, Cost Accounting, Finance
Advertising consultant for climate issues
Agronomist
Atmospheric and space scientist
Banking, green bank, green banking projects
Battery Management Specialist
Brand designer
Building Energy Modeler
Business consultant for climate change adaptation
Business Development and Marketing
Business manager for climate related issues in business

Sustainability specialist, Climate change policy analyst
Charging Systems Manager
City Planner
Climate Activist
Climate educator
Climate Lobbyist
Climate photographer
Climate policy strategist Climate scientist
Climate Resilient Infrastructure Specialist
Customer Service Coordinator
Data Analyst focused on climate change impacts and predictions.
Doctors specializing in research and practice related to climate impacts on health
Earth Scientist applying skills and knowledge for climate solutions
Geologist, Hydrologists, Geographers, Remote Sensing specialists
Ecologist
Electrician for any sustainable products (heat pump mag induction cooktop, EV chargers etc.
Electric Vehicle designer
Engineers applying specialty skills and knowledge to climate problems including R & D
Electrical, Civil, Computer/Software, Renewable Energy, Environmental, Automotive,
Field, Equipment, Industrial, Platform, Mechanical, Chemical, Packaging, Robotics,
Systems, Homologation, Battery, Quality, Robotics, Manufacturing, Safety
Entrepreneur for climate-positive products and services
Environmental Emergency Planner (floods, extreme weather, disaster)
Environmental Educators
Environmental Health and safety specialist
Equipment maintenance technician
Equipment Design and Development
Events Coordinator
Finance strategist for climate issues
Financial accountant
Fleet Management (EVs)
Geographical Information System Specialist

Grant developer/officer
Forest planner
Historian of climate science
Hydrologist and sustainable power production
Human Relations Officer
Industrial design

Journalist, environmental/climate
Lawyer, environmental/climate
Liquid air technician
Machinist and fabricator
Material scientist developing/research products for climate applications
Machine Learning specialist
Mechanics for EVs: Trucks, cars & bikes
Mental Health workers treating and researching climate related issues
Psychologists, Psychiatrists, Clinical Social Workers, Family therapists
Meteorologist research on climate change impacts
Nano technology controller
Nurses educating on climate related health risks
Office Manager

Opera Singer {Joyce DiDonata as example} https://www.independent.com/2023/01/18/post-operatic-garden-of-idealistic-delights/
Procurement and Purchasing for sustainable material acquisition/sourcing
Product Designer
Public Health with emphasis on climate related disease
Public Relations ManagerPublisher, climate issues

Purchasing/Buyer materials and needs for climate projects

Realtor: Land acquisition for renewable energy or regenerative farming/conservation projects
Recruiter for new staff
Renewable Energy Consultant
Reporter/Journalist, environmental/climate
Sales for climate-positive products
Solar cell researcher

Solar Installer
Solar site developer
Soil Scientist working on better soils without chemicals
Supply Chain Director
Sustainable agriculture consultant
Sustainability Consultant
Sustainable fashion designer
Machinist for climate equipment

Meteorologist
Migration consultant re sea-level rise
Migration consultant re-international climate issues

Novelist on climate issues {Kim Stanley Robinson as example}
Operations manager for climate practice
Operations manager for climate practices
Operations manager for energy
Political scientist researching politics and climate change
Public relations to represent climate change mitigation efforts
Regenerative and sustainable food developer
Farm Manager, Greenhouse Manager
Statisticians research on any aspect of climate change

Transportation: arranging transport for climate related products

Well driller for geothermal energy
Writers: Technical and creative
Wildlife and fisheries manager
Wildlife researcher/conservationist
Wind turbine technicians
Paleo-climatologist
Government administrator
Urban planner
Wind or Wave turbine technician or installer

In addition, there are positions in climate organizations for people who make offices run, move things, monitor equipment and provide support of all kinds that make the organization hum.

## Possible Climate Career for you-

The idea of making a difference in the climate crisis appeals to you. Great! Here are some possible titles for you to get you started. These are titles of people already committed to climate work. I've written before about several ways to start a climate career and you can access those here, and here and here. This article is an annotated list of relevant career titles that address climate change problems. I will start with some you might not have considered climate careers. This is List 1 among several that will follow.

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## Titles to consider:

Titles annotated below: Teacher and Administrator: Refrigeration Manager/ technician/researcher/sales: Rancher: Regenerative Farmer: Insulation Installer/ Material Scientist: Support staff; reception and data management/IT along with accounting and bookkeeping. Sales/Marketing: Architects/Urban Planning: Land Developer: Land Restorer: Advertising: Climate Scientist:Sustainability Manager: Climate action organizer: Climate Fund Raiser: Climate Journalists: Geologists: Material Scientists

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## Annotated Career Titles

### People Oriented Careers

**Teacher and Administrator:** Teachers were determined by the Project Drawdown to be one of the great levers for making a difference in the climate problem. Where girls are excluded from education they are cut out of the decision making for their adult lives. ProjectDrawdown (PD): "Today, there are economic, cultural, and safety-related barriers that impede 62 million girls around the world from realizing their right to education." Women's education in health and family planning "… focuses on health-care provision and meeting women's expressed needs, empowerment, equality, and well-being are the result; the benefits to the planet are side effects," from PD.

**Sales/Marketing:** Where there are products needed for climate change efforts, there are sales and marketing people needed.

**Hands-On Careers**

**Manager/technician/researcher/sales**: One of the great sources of green house gases (GHG) is the refrigeration industry. Moving refrigeration technology to new refrigerants and capturing old refrigerants reduces GHG.

**Rancher:** Ranchers manage grazing to improve the soils and sequester carbon while producing high quality food and clothing products. A new look at increasing bio-diversity is happening at Knepp (https://knepp.co.uk/) where wilding an old English estate includes wild creativity and use of herd animals.

**Regenerative Farmer:** Farming with nutrient management and reduction in commercial fertilizers improves soil and quality of food and a reduction nutrient runoff. Excess runoff causes water pollution and oxygen depletion downstream.

**Insulation Installer/Material Scientist:** Insulation of homes, industrial and commercial buildings is a huge potential source of energy reduction from use for space heating and air conditioning.

**Business Services**

**Support staff**: In every area and every career listed here there are necessary jobs for support staff of every kind you can think of. Office workers in **reception** and **data management/IT** along with **accounting** and **bookkeeping**.

**Land Developer:** All the large scale renewable energy infrastructure projects need suitable land to be located and acquired to match the needs of each project. This includes generation plants, transportation of materials and energy

**Land Restorer:** Restores land from prior human use for wetlands, wilderness, and new climate-positive uses for regenerative farms, low impact housing. Brown field restoration is another term you may find for this process.

**Creative Design**

**Architects/Urban Planning:** Building design and retrofitting for greater energy conservation is critical for the climate change effort. Choices of local low-carbon materials are part of the climate-smart strategy. Urban Planners develop efficient

traffic flow and placement of urban services and worksites to reduce the need of transportation and increase the positive aspects of urban life.
**Advertising**: Used to market consumer/home/business products that reduce energy needs or generate energy at home, office or business settings.
Scientists

Climate Scientist studies the effects of climate stage in one or more disciplines. Atmospheric science, botany, oceanography, climatology, are a few of the disciplines these scientist work in. There are others with specialties in physics, chemistry, and other earth and physical sciences. Soil science stands out for the work involved in sequestration, and regenerative farming. Agriculture fields (including Ag. engineers and Ag. economists) and agronomists make large contributions to climate science and applications.

**Geologists:** As a geologist there are often questions about siting renewable energy equipment. The obvious generators like wind, and solar may have special requirements at their site that require the expertise of a geologist. Gravity energy storage, water energy storage projects are going to require geologic input to choose suitable sites and for installation. So will hydrothermal plants that require finding sites and careful study of installation of such equipment. Dams are being removed for environmental reasons at the same time dams are still under consideration for some sites. Geologists with special knowledge of hydrology have great value for siting less intrusive in-stream generation sites. Sites for wave energy require careful analysis both for potential as well as installation requirements. Consideration for successful restoration of abandoned oil, coal and other mining sites are possible options for geological consultation.

Geology has always been a field of interest to me, especially after a conversation with a graduate student in geology. He believed his best option for making a difference in environmental and climate issues was to pivot to a different field. I, however, firmly believe that geology remains a vital and dynamic area for contributing to climate solutions, offering unique opportunities to address pressing environmental challenges

**Material Scientists:** Throughout the field of renewable energy production, new materials or new uses of existing materials is of value to make technological advances. In batteries, solar cells, electric vehicles, wind turbines and many more devices, materials can continually be improved. Improvements include efficiency, safety, and cradle-to-cradle cycling for consumer or industrial products.
Business Services

**Sustainability manager:** Managers oversee sustainability policy and programs for a corporation, government office or non-profit. Sustainability includes climate action, energy efficiency and renewable energy. Certainly, other areas are possible. The goal is to reduce the organization's contribution to climate change.

**Climate action organizer:** Special interest organizations form around creating social pressure for change in policy, politics, leadership and funding. Some people do this at the very tip of the grass root before money is involved. The larger groups raise funds and hire people as organizers who develop plans of action, recruit supporters, direct action. They also are involved with publicizing actions before and after events and work with media to provide education on climate issues and concerns.

**Climate Fund Raiser:** Fund raisers are responsible for the financial support of special interest group involved in social action. Grant writing, soliciting donations, producing events for income and donations are some of the activities of the fund raisers. Cultivating donors and educating potential funding sources is part of the job too.

**Climate Journalists:** Journalist that specialize in covering the climate news from scientific breakthroughs and findings, to corruption in government or conflicts of interest. Such journalists work for large newspapers like the NYT, LA Times, or TV and radio.  Podcasts, specialty newsletters and blogs are other venues for their articles. In addition to journalists that work for one or more of these organizations, there are journalists who sell their articles as freelancers to a variety of outlets. Others have started their own "publication" to broadcast their journalistic efforts

**Summary**

Avoid using a climate career list as your sole guide for choosing a career. Instead, approach career planning as a process of exploration and refinement, going beyond simply "discovering" or "landing on" a single option. Use the ideas you generate as a starting point to connect with people whose work aligns with your values and interests. Let the list inspire you to explore related opportunities that might better suit your skills and passions.

# What degree does a new grad need for work in climate solutions?

What degree do you need to work on climate solutions? If you are a new college graduate that wants to make a difference in climate solutions, ProjectDrawdown.org (PD) is a great start for your research. Here you will find a prioritized list of solutions. The PD folks have also provided you with estimates of how much each problem contributes to the climate problem in carbon emissions. This is extremely helpful in deciding where to apply yourself for the most effect from your work. That will help you decide how you put your degree to work on climate change.

What you will notice is there is not a guide telling you which majors will be best in each field. That is going to require some work on your part. You will also notice right off these solutions are not all physical solutions and they don't all require engineering, science or mechanical skills. Of course there are plenty of those great opportunities too. Your major is a knowledge base and set of skills you can apply to many climate problems.

Choosing the problem you are most concerned about might make the most sense. Your concern for the problem is the engine of motivation that will move you through your career to have the most impact. Once you have a climate change problem and solution in mind you will do well to refine it. The PD solutions are enormously broad in scope even though they have broken the climate problem into many chunks. If you choose EVs as the solution of your greatest interest, then you can start searching for a piece of this where you will contribute.

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### Apply Your major

Your degree is a product of your interests, skills and values. Unless you chose, like my friend, to major in the field of the cute student ahead of him in line at registration. In some countries, your major will define what you can apply for with great rigidity. In others, there is much fluidity in what work is open to you

regardless of your education. I will assume a rather fluid situation and suggest to you that even in rigid societies, there are exceptions. Examples of where rigid is more often the rule, think of jobs where workers are licensed, such as barbers, doctors, embalmers, lawyers, or psychologists to name a few. In those examples your training is specified by law in your state or country. You will do well to have the proper training and degree and reach for the license to do that work. Your degree is generally not a limit in climate change work.

Sticking with the possible solution of working in the EV industry, let's look at the options. Easy enough to imagine automotive design as an option, manufacturing another and production management too. How about buying materials or parts for the manufacturing? Or providing the advertising for the industry? Do you suppose there are lawyers involved here? Of course. The battery industry is a subset as we see EV manufacturers (Tesla for example) who are making their own and others are purchasing them from a supplier. Battery research is another option. This week I read about new aluminum batteries that may be strong competition for lithium in the future. Materials science research will bring new solutions to the many problems of bringing EVs to market. Accounting and bookkeeping are necessities in any business as well as computer science, and robotics for manufacturing as well as human resources and more.

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## Job Title?

I know you can find lists of jobs. Lists by industry or even those for Project Drawdown's solutions. That may work splendidly for you. It's what most people do. I also know few new grads stick with their first job very long. Could that be a product of picking from a list? Maybe you can get closer to being able to contribute the way you imagined by doing more research up front.

Rather than name your job title in the sea of opportunity, I suggest you think about function. What do you want to accomplish in your career? Will that work feel like a contribution to you? What would you be doing? That is your function. If you see that function already in your field of choice, this gets easier. If you don't, then you need to see if that function will enhance the operations, the effectiveness of the industry or the businesses in it.

Rather than search for one title for your job, start asking people in the industry, who work on (name your function) in the EV industry (or the one you are actually choosing). Let the people in the industry tell you how that function is fulfilled and who you might talk to in that work. The faster your chosen industry is evolving the less likely there are rigid job titles.

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## Size Matters

## Smaller Organizations

Smaller organizations offer a couple of things that aren't apparent right off. These can be an advantage to you or not.

First, people have responsibility for a broader scope of operations. In the supply chain for manufacturing there are parts that come from a variety of organizations. In those companies you might find a person who is the material buyer as well as having responsibility for assembly of the part. The advantage is that you get broad experience fast. The disadvantage is you have to be able to work a variety of functions without the intense focus on one. You could come to have a greater sense of ownership of the final product or service you help produce.

Second, a smaller organization is often innovating to stay in business. They can be more flexible about who they hire and when. Probably your training will be on the job with an experienced person. What that can mean is your major is less critical to the employer than your motivation to do the work and your enthusiasm for getting things done. A tool maker I know was fond of hiring English majors in his small shop since he found it easier to train people to operate his CAD equipment than it is to teach them to write the required descriptions for the products. In a larger company, those functions would fall to two different people and therefore, both more specialized.

Chances are better in the small realm that you will be influencing major decisions and seeing your ideas implemented in the direction of the organization. It's the dream of many to have their own organization, even if it comes down to being the only employee. Recently, I've contracted with a company of one and come to see many advantages that include freedom of decision making and major control of direction within the market limits.

## Larger Organizations

Large companies have training that is more like taking classes in preparation for their jobs. Positions are more narrowly defined and you may feel your contribution is more focused on what you want to do. The disadvantage might be the feeling that your contribution is but a small part of a much larger operation.

Large companies are more stable over time and often have much more resource to solve problems. They are more likely to provide substantially greater benefits that go with your employment. Both are good assets in your work partnership.

One idea is to start with a  large organization to receive the training available and then move to a smaller organization to realize more flexibility and responsibility.

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## Conclusion

What degree does a new grad need for work in climate solutions? Put your emphasis on what you want first and then apply your degree to get you there. Motivation and focus is much more valuable than your degreed area. If someone tells you it's not possible to get where you want to go with your degree, tell them thanks for the advice and then keep moving.

# Develop a Climate Problem into a Green Proposal on the way to a Green Job

I introduced an idea at the beginning of this book. Every job exists because it is the solution to a problem. No problem? No job! When you write a proposal for solving a climate problem, that is your opportunity to write your job description into the proposal. Be the consultant or be the manager who will direct the efforts at solving the problem. You are the clarion warning that there is a problem. As the consultant or the continuing employee you are identifying a concern that needs to be solved. Your proposal will explore the problem and develop the necessary solutions. You may not be the problem solver. The person who was first alarmed about the waste of ivory used for the modest billiard industry might not have been the person who came up with the celluloid (plastic) billiard balls for the pool hall. But plastic started out to solve an ugly problem before becoming it's own ugly monolithic problem.

The strength of a proposal rests on your analysis of the problem. Often a proposal is effective as a new offensive move. Get out in front with your proposal. Include specific metrics and logical development. Being first is half the game.

Since you answered all the questions above, "all" you have to do now is marshal your facts into a logical argument for solving the problem you discovered . Right? Well, no, you have arrived at the point where you need a solution to propose.

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### The Solution in the Equation

Maybe all your data will point to clear and logical solutions for the problem. Great! You are ready for the proposal. However, your analysis might simply have developed the problem really well. Since you don't know anything about the idea of celluloid, the best you can do is say we need a *substitute* for ivory. In the meantime you are going to propose a ban on ivory imports and elephant hunting knowing that the pool hall mentality is going to demand more billiard balls and the black market will thrive until an alternative emerges in the face of import bans on ivory.

A problem with no compelling solution is a call to action. That can be your proposal. If you have nothing at hand to throw down on the billiard table, you show your stack of data about elephant hunting and billiard halls and the inevitable demise of both if you don't leap into the fray with the effort to find an alternative. You propose an effort to create a substitute material for ivory to displace the killing of more elephants. You need to find a funding source concerned about elephant conservation, or pool halls, or both who will fund your effort.

It is so much stronger to have that celluloid billiard ball to offer at the time of your proposal. If you have a solid solution rather than an idea about the nature of the solution, that's a stronger proposal: "Here's a cheap solution so billiards can continue without killing more elephants. Fund my factory and I'll supply limitless numbers of billiard balls at a price cut so low that no one will hunt down another elephant to make billiard balls! As the venture capitalist, you stand to make a vast profit and feel good about this wildlife conservation effort all in one stroke!"

The more specific your proposal, the better. The more it makes money, saves money or does more with money, the better. If your proposal will reduce carbon, but the costs are wildly disproportionate to the money spent, you aren't really in the proposal business. Cost and benefit will always be an issue.

If you have a job, you can apply your proposal for a new job or to modify the one you are in. The proposal is the a major part of the consultant's arsenal in assisting a client with a problem. A proposal might be the way to modify the job you are in and create a better fit for yourself.

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## Publishing Your Findings

You have followed an investigative process. You can publish your findings rather than use them to start a job or a consulting gig with your proposal. An internal newsletter at your organization is a possible location for your investigative piece. You could publish your findings in an industry blog, newsletter, or magazine. Another option is local news outlets, especially if the investigation reveals public health or community well being concerns. Or maybe you found fraud or bad actors at work and reveal that in your published piece.

Contact a reporter if you aren't ready to write your piece yourself. Describe your data and why the public needs to know about your findings. This is another proposal of sorts where you use your collected data to interest and then convince a reporter to make your data about a problem public.

Once you are published, you might use your published piece as the backbone for job applications or proposals for consulting. Quite often consultants launch or bolster their careers with such publications

Ask your friends and family how they chose their careers. It's a great dinner topic. Use it at the next BBQ. Or when you can't think of something smart to say. I've been asking people about their lives and their careers my whole life. Now, make sure you pay attention! Drill down on them, gently. How did they get that job? How did it lead to the next?

If there's a strong element of planning and purposeful decision making, you are talking to a unique person in the smaller portion of the population who made their job happen. In general there is a ton of happenstance. Scott fell in love in the registration line to decide on a major. Twenty years later he completed a PhD, in her field. Of course she was long gone! Sam's dad had a heart attack three months before her college graduation. Even though she passed the LSAT and was selected by a prestigious law school, her family needed her to help out. So it was back to the family business instead of off to law school.

Did you hear about those happenstance things…well, happening? People often end up in jobs their family can help them into. They have friends who made contacts for them. It was what they knew and it was comfortable, maybe. Was it what they dreamed up as a career? Not very often. My buddy of many years ended up with a fast food franchise after falling out of law school. Do you suppose that was the plan?

About 20% rather do anything but the job they have, 20% can't think of anything better than their current job and the rest (60%, if your counting with me) are OK, but there is probably something better they could be doing.

Let's aim for the upper 20% doing a job where you derive meaning addressing climate issues everyday. You win, I win and so does the planet! That's because, there you like what you are doing the better you are going to do the job and the

better you will solve those nasty climate problems! That's where we get the bigger impact! Choose a big problem, find the biggest need that fits your interest and values and settle in to finding solutions. Choose better for your climate career!

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## Heading off happenstance and Choose Better for Your Career

How do you plan so you survive happenstance, or disaster for that matter? Scat happens (yeah, the scientific version of that word)! On the way to their careers, my buddies took a detour to Viet Nam. That detour capsized their education and career dreams, some for a couple of years, some got side railed permanently.

My job is to start up your self-re-orienting gizmo so you have it running when happenstance is over. And it will be. When you are done responding to scat, you want to recall where you were going. Maybe GPS is a good analogy for this. You say, "navigate to X ,"and then find there is a first-responder brigade between you and X! A good nav system will still have X on the program and howling out those directions: turn left at the next intersection, turn left now! That's the idea I want to implant. Your personal criteria will put you back on course. With your internal orienting system you recover faster from happenstance and choose better for your career and keep that goal despite offsets.

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## The Heart of the Matter

Setting up your internal GPS requires setting your important career criteria. That's the shorthand to save for the career you select. When the distraction or the detour occurs things will go off the tracks. These criteria are your way back.

1. Values, to me, those are the heart of better choosing. You are planning a climate career! So stick with your values that go with that: Making life better for everyone, saving as much of the wildlife and habitat as possible, working to have an **impact** on climate change.

2. Next, associate with people who do climate work whether you have a green job or not. Even if that mean's you are working a coffee shop where the

Green Job people come to meet. Interim jobs are best when they keep you connecting with folks doing what you want to do. Making those contacts while you work is much easier than searching them out after hours.

3. Look to your skills. Which ones do you want use? Now consider new ones you want to acquire. You can develop more skills than you thought you could. You won't master everything, but don't give up on skills that are necessary to do what you want.

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## Final Thought for Choose Better for Your Climate Career

When your detour first happens, recognize there will be a time when it's over. Prepare in advance. Set your criteria and come back to take the next step to make your climate career move.

## Good mentors rarely drop from the sky. I naively thought my major professor would be my career mentor. He was, up to a point. What I didn't know was how much I was missing until much later. I simply didn't know what I didn't know!

Like most career process, we are accustomed to expecting things to happen. Maybe fate will provide you an exceptional mentor. Personally, I don't think fate gives a damn! You might be privileged enough through your race, your family circumstances or other factors to have people well positioned taking care of your life and career development. If so, you don't need to know how to cultivate a successful mentor relationship.

### Mentor Model

The person who first taught me about cultivating a mentor asked me as her mentor. Melanie was moving her career from professional dancer (think Radio City) and actor to becoming a professional psychologist. After our first talk together she said, "I'll start on these ideas you gave me and I'll be back to see you…" and named a date. She brought coffee and pastries. She came with well-thought-out questions. I was sure she was going to make the transition just fine.

What I didn't know is Melanie researched me and decided I would be her mentor. She then set up a relationship to tap into my experience and contacts by making sure her visits fit my schedule. AND she prepared well each time with questions and results from previous tips and questions. She made the whole process fun as well as very professional. I looked forward to seeing her develop in this new professional goal.

Melanie can be your model in this process as she demonstrated how to cultivate a relationship to get the help she needed to enter a new field. She also moved far away for grad school and then circled back to talk about her grad program during those years. Later she was back asking about entering the local area as a new psychologist.

## Cultivating the Mentor Relationship

Let's step through what Melanie did.

1. Melanie researched people who could provide you with mentoring assistance. You want someone who is doing the work you want to do or who supervises, teaches and/or hires those people. Tell your mentor what your goal is and be ready to modify that goal based on new professional insights. Your new mentor should be amenable to the process and available often enough to be helpful.

2. She arranged for follow up contact with me as mentor after our initial introduction. Plan so you are ready. Ask your mentor suitable contact methods. Then suggest frequency and methods of staying in touch. Appointments, luncheons, digital contacts, phone calls are all possible modes.

3. Then she followed up with appreciation. Use thank you notes, offers of coffee or similar treats and easy and important ways to show you are serious about the relationship. Also be sure to indicate you are using the tips and contacts provided by giving evidence of what you learned to your mentor as you proceed. Provide ideas and contacts to your mentor that might be productive in their professional work as you learn more about the field.

4. She always showed up on time and prepared. Start using the words and terms of your new profession. Show evidence of understanding the problems the mentor and others are facing in their field and ask about their perspective on these issues. Prepare your questions and try to show evidence you did your work before crafting a new set of questions. Don't expect the mentor to be your sole professional source of information.

5. Finally, Melanie also picked someone who was not in a position to control her career. I was not a supervisor nor an academic advisor. I was not a spouse, friend or other relative who might be dependent on her decision in some way. That neutral situation is not a requirement for a good mentor, but it can be really good start for unbiased advice.

See? That's not so hard. It is also completely different from hoping someone will show up like a fairy godfather and make it happen for you.

## From Mentor to Mentors

Your first mentor won't be your last. Nor is there any reason you should have only one at a time. You should find different mentors for different parts of your career journey. One might be particularly adept with advising on furthering your education. Another could be a contact maven who helps you meet the next people you need to know. Someone else might let you into the inner workings of your field to learn where the power is and the skeletons you don't want to fall in with.

The biggest problem with cultivating mentors is you don't know what you don't know. What I didn't know to ask about was how to move within my profession at the regional, national and international levels. My mentor for that move was a grad student who worked for me.

I had managed to bumble along relating in my field but my grad student was adept at seeing the bigger picture and making contacts and drawing me along as well. I found a division of my field I hardly knew existed and fell into a very productive period of my career because of the new contact and writing we did together. Had that happened twenty years earlier, it would have had even more value. I am talking about an enhancement to my career enjoyment, not a survival issue.

Here's how to get to the part you don't know and don't know you don't know. Phew, shades of Donald Rumsfeld (look him up). As you move along in your education or career, let your mentor know as you modify your goal and ask your mentor how to see the big picture of the whole field. Describe what you understand as you are head into your future and then ask the mentor to fill in what you don't know. Then ask, who else has another perspective that you value?

## Future Predictions

I won't pretend I know how to predict the future. I've seen how wrong I could be repeatedly. What I do want to have you think about is what you will do when your career goes off the rails or maybe the wheels fall off your train. In other words, expect trouble. When you have trouble, a mentor can help you think about the alternatives. We are talking in this website about climate careers. There is going to be trouble. Political jarring and posturing is unending. There are going to be new developments and new technology. So expect changes.

## From Mentee to mentor

As you learn about cultivating, recognize that you will likely be a mentor as well. You can help others recognize you as a willing mentor and to do a little cultivating

of their process too. Some requests will be transitory and informal. You can offer a broader professional relationship where you see you have additional help to offer. You may also be in a position to recommend your mentee for new positions or guide them towards opening fields.

## Voluntarily Sidelined from drudgery, or Laid Off Unexpectedly, now what?

Deciding to leave the workforce might be a smart move. Then again, it might not have been your choice. Making that move without a plan could make for difficult times ahead. It's always best to have the next step at least sketched out for times like these.

I know some of you have great plans and since you are here with me, I expect that plan involves working on climate issues. You already know I endorse that move heartily. Maybe this is a time to consider starting your own operation. Even if this isn't the time to launch you could choose what to do next so you build skills and knowledge to become self employed later. Being sidelined doesn't mean you can sit and wait for something better to come along. Six months of severance pay or your own funds can go really quickly. The "now what?" is really up to you to design!

## Take advantage of your sideline position to do these things:

1. List your criteria for your next position. What problem do you want to solve? Name resources you need to solve those problems. Describe people you want as colleagues. Where do you want to work, geographically and organizationally?

2. Tell everyone you know your criteria for your next step job.

3. Make this planning/search process into your current job. Set up a schedule and then put it to work. Keep time for yourself to relax, but keep up the daily contacts, planning and then visiting potential employers.

4. Discover how employers define and talk about the problems that concern you. Learn their language and ask them what they use for resources to stay

abreast of the field, websites, podcasts, publications, training and professional meetings.

5. Develop a proposal for how you can solve the problems you see. Even if you never pitch it in full breadth, this is your backstory that helps you develop a greater fullness for interviews and applications.

6. Take time for your mental health. As you are climate person, I recommend outdoor experiences that will remind you why climate work is worthwhile. Go kayak, hike, rock climb or just sit outside. Share the experience with others if that helps.

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## Sideline Summary

Start your plan early when you take a towel and remove yourself from the game! Sure it's grand to take some health time and go look at that little water fall you always meant to find. Then make an plan and work it daily. The people who get where they want to go make things happen through
contacts, researching their market niche and making proposals. Hope your voluntary sidelined time from drudgery turns into "now this" as a new green job in the climate field! Politicking a new Green Job

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## Support your chosen career politicking a new green job.

This is a departure about the green jobs market and climate careers. This time I want to point out how politics can affect that job market for you. Politics always have made for economic swings and the types of jobs available. When people say about the vote, "it's the economy stupid!" this is a big part of it! There is no reason for you not to participate at your fullest. This is America where we express our values and our needs.

I want to walk you through an easy way to increase your participation to support the type of jobs you have or you want. If you think this is somehow a conflict of interest, or that you shouldn't be lobbying and voting to create your career, think again. Consider what industry does all day long. They hire lobbyists and public relations firms. They hire ad agencies including the New York Times. Corporations send legislators money for their campaigns, sometimes huge amounts of money to

buy influence. They visit with administrators from state and federal government regarding the way government funds are used and how the request for contracts proposals are written that they compete for. They write legislative briefs in hopes legislators will use them to write bills or administrators will use them in forming policy. In short, they influence policy that determines how markets will treat them.

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## What Levers do you have Available?

Unless you are quite wealthy, you won't be hiring a lobbyist. I never have either so I can't advise on how that's done! You can go visit your representatives in public office from local through federal levels and you can protest and rally with other people (or alone). That's you being your own lobbyist.

You can put up a billboard with your proposed action on it (my friends did this a couple of years ago with other like-minded folks). Join organizations with political clout who want what you want and you can find organizations who lobby governments for specific climate concerns. You can write letters to the editor for newspapers. I also write to TV shows suggesting climate based themes they could use. You can sign petitions for causes you believe in. You can rail on social media. I am going to focus on elected officials who are supposed to represent you. They will (usually) pay attention when you write, call or go visit with them.

I'm going to focus on contacting your representatives. You might think writing your various representatives will have no impact. That is a pervasive opinion. Only 37% can name their representative. So I'll bet they aren't writing or calling them very often, right? That means anyone who contacts a representative is going to have more voice than those that don't and most people just don't!

Will your opinion or request have any effect? Much more than if you don't send it! Dr. Aryana Johnson and Alex Bloomberg of "How to Save a Planet" podcast said staffers for representatives started paying attention when 10 or 15 people were contacting their boss about the same issue. I wrote to my state senator and was asked to flesh out my ideas on the topic for her consideration for a new bill. I was also asked to consider joining a group to advise the representative. Your opinion counts when staff report to their rep about issues you cared about. You are a

constituent. If you write, then they know you are paying attention. They will also assume you vote and that counts too. In fact, why not just say you vote and what your issues are!

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## What do you say or write?

You want a green job, a climate career. Or you want to keep the green job you have. That's your goal, but that's not your topic.

Write your representatives about the legislation that will support the job you want. If you know a bill exists that supports your job plans or the sector of the economy you fit into, tell them you want that bill passed. You say, "I support the X Bill." Or, "Please vote for the X Bill." Make it that simple if you want. Or you have an option to say you want your representative to block something. Say, you want to see refrigerant HFCs decreased in AC units and in commercial refrigeration. Actually that amendment to the Kigali agreement was finally signed by 2024 by the US. That plan will support manufacturing better refrigerant and hiring people who will be responsible for recycling or repurposing the old HFC material. That will keep more HFC out of our atmosphere!That created more jobs replacing that old HFC crap and keeping it out of our atmosphere.

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## Where do you find contacts?

I know if you are reading this you know how to search the internet. Just to make it even simpler here's a site that sussed out most of reps down to the local DA. It did miss my county supervisor and the guy who is the county climate officer, but you know how to do that, don't you? "Who are my representatives?" That will work in your browser most likely.

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## Here's an example

I sent this letter off to my representatives yesterday: "Dear Representative X, I heard President X talking about the X Jobs Plan today. I want to see the X Plan

passed in congress as soon as possible. Please support it and make sure there are good green jobs especially for workers transitioning into renewable energy from fossil fuel jobs." You don't have to have the bill number to write your representative, senator, president, local county supervisor, mayor, governor or state assembly-person. Just say what you want.

Write a short, specific statement about action you want. This isn't about arguing, it's about developing a count for the action you want. Action is the key concept. If you see something about to happen that you don't want, ask to have it blocked.

This isn't where you ask someone to hire you. Since you have chosen to help solve climate crisis problems you need help to make better climate solutions happen. When support comes it will mean jobs. It will mean old organizations will be making moves to create green jobs to keep up with the need. This is what I mean by politicking a new green job.

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## What Happens Next?

Your rep is going to contact you (with a form response) about your letter. They are going to offer ways to follow what they are doing through their newsletter, social media or website. If they don't, vote them out next election! I find that when they chose the action I wanted they are fast to let me know. They want my vote and this is the best way to let me know I count. This is your chance to watch what they do. When you see your rep make positive decisions, contact them again and thank them. How many people do you think do that?

If you representative writes back with a vague response, they didn't agree with you and they are trying to get you or keep you in their voting column. Write again and tell them that wasn't good enough, you want positive action on your topic.

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## Find Topics and Time to be Politicking for a new Green Job?

Start by following the news about what politicians are working on. You can do this on TV news, on line, in newspapers, news blogs the information is in all sorts of

media. Notice who is named as a sponsor. Search for more information about what action could come from the bills and issues being discussed. You can look for newsletters that specialize in the climate problems you want to help solve. Some reporters specialize on those topics and some web surfing will help you get informed on what is currently happening or things you think should happen. Career is what you do that is important to you. Career is what you get paid for? Or is it those things you do that make a contribution? I want to muddy the water and have you consider that you can volunteer and have that as your career along with your paid work. Paid work is just a job! Whoops! Maybe that's too rigid for a definition. I want to help you consider how to address climate change with volunteer work including citizen science.

I was on a mental health board for 15 years. I consider that as seriously a part of my career as my paid work even though it was volunteer position. We made decisions about housing and treatment  for mental health patients in my community. You can make a difference in the way you volunteer your time. You will also make contacts, develop skills and knowledge as you do.

After I retired I went to work. Seriously, I have put in thousands of hours since I retired working on efforts that address climate change. I collected phenological data as a citizen science volunteer. Educating people from kindergarten through retired folks about nature has kept me busy learning and sharing what is happening to our environment and climate. I planted native plants at home and on public properties. This book, along with preparation, reading and marketing support are my volunteer efforts to address climate change. While in my volunteer mode I've met hundreds of retirees and other volunteers doing similar work and we overlap at different sites and projects. Think about how you can volunteer as you learn how to address climate change with citizen science or other volunteer work.

# Your Contribution as a Citizen Scientist/ Educator

Here's the deal. There are tons of things we can do that contribute (one of my favorite words when it comes to climate change issues) to addressing climate change problems. Making a contribution is one of biggest benefits to self esteem we have. The other facet of life that is a co-equal to work, is love. I don't give love advice, at least so far. This is about contributing to the planet, to your society and to the people you love.

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## Finding Your Place to Contribute in Citizen Science/Education

You might be stuck with the job you have. Maybe you have maxed out on the ways you can move your work towards contributing to climate solutions. **If you want to do more**, consider how to address climate change with citizen science. We will be looking for ways to focus on citizen science efforts and volunteering. Once you start making contacts you will find people are excited about their volunteer work and will want to share it with you.

The amplifier effect is huge. Once you start volunteering, let other people know about the opportunities you are enjoying. You will be meeting like-minded people for example. Invite friends to join up or to do something that fits their schedule and location. Just letting people know what your do stimulates ideas of what they can do. If getting outside is part of your citizen science, so much the better. Building a sense of achievement in your project(s) helps overcome climate anxiety too.

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## Finding organizations where you can address climate change

Where do you find opportunities? Some are online, some are in your location. Here are some organizations you might contact to get started:

I gathered data for Nature's Notebook for over ten years. You can do this on your own or you might find a reserve or park that is involved that could use your help collecting phenological (related to seasons) data on plants, animals or birds. The data you collect feeds a huge, national data base with your local data that helps

scientists discover what the effects of climate change are on the world around you. You can access the data as well to see a bigger picture than the data you collect. The Audubon Society along with Ebird are ways you can combine bird watching with data collecting and help to build the international data base on bird behavior.

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## Examples that Likely Repeat in you Locale

Nature Track is an organization for educating school age children about nature with the idea they will be better stewards of the land as they become adults. As a group we provide up to 4000 students a year with outdoor hikes that augment their classroom science and cultural classes in our county (Santa Barbara, CA). We also have Trex machines that make a wheelchair into an all terrain vehicle cable of negotiating trains and beaches so folks with mobility issues can participate as well. Similar organizations provide outdoor education in many communities.

Frogwatch is another project that needs citizen scientists. This is a project from the zoo in Santa Barbara, CA. Perhaps there is something similar sponsored by your zoo. Look to the local nature or wildlife reserves, preserves near you. Some national, state and regional parks have volunteer opportunities as well.

I have been involved in projects that vary in scope from collecting native plant seeds, propagating native plants and planting them at the University of California Sedgwick Reserve. At the same location I've led numerous educational naturalist walks for all ages.

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## How To Find More Opportunities for Citizen Science/Education

Start your search for opportunities the same way you would look for any other job you seek. Ask everyone you know and meet what possibilities they know about. Use the keywords, citizen science, reserve, preserve, outdoor education, parks, open space along with zoos and aquariums. Then consider the organizations that champion the wildlife and native plants around you. There are online opportunities to help out with citizen science as well. When you find anyone doing something interesting ask them how you can get started or who does more of the part you find interesting.

A unique opportunity came along from Zooniverse has a special project to help **climate scientists** gain access to old ships logs for historical weather records. Jump in to help out by enter log data from old ships! These logs will tell us what ships around the world were experiencing as weather from long ago to compare with modern data! You can be part of that.

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## Moving from Addressing Climate Change as Volunteer to Paid Work

The advantage of volunteering is that you rub elbows with other volunteers who will let you know about similar opportunities. You meet professionals whose life work is focused on issues of concern to you. If you want paid work, this is an reasonable avenue to connect and build the skill to begin working in the your new field. Don't be shy about telling the professionals you work with, you want develop an option to for a related paid job. Ask for supervision where they give you feedback. Keep records of your hours on each of your projects. Be able to provide a **numerical** accounting of what subjects you studied, numbers of data points involved, how many people you took on field trips, or the outcomes of the studies you were tasked to do. **Whatever is worth doing is worthy of keeping records!** While it's fresh, write up a summary of your accomplishments. If you are moving rapidly from one volunteer experience to another, you will find this helpful when it's time to apply for a paying job.

Make sure you meet the visiting professionals who come to look over the site and the projects you work on. Attend the presentations where the data are presented and discussed. Follow up with the people you meet as contacts for additional volunteer opportunities or actual paid work. Make it easy for people to reach you and for you to stay in contact with them.

# Epilogue: How do you handle your first green job and start your way to the next?

## How to Kick Ass on Your New Job

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**A letter from "your boss" on the first day at work in your new job.**

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**By Your Boss**

You are entering the climate fixing effort. That's very commendable. In this piece you are getting an introduction to a for-profit corporate office model. Of course, some of you are reading this while you have entered a small business, government, or non-profit or even your own start up. Use your best judgment about how to modify what I am saying here. You will know better than I when I am off the mark for your situation.

Jobs are about money and problems. Doesn't matter where you work, that's true.You either bring money with you, help me make money, save me money or make the money go much further than before you got here. I want to have the biggest contribution of any organization in the world on climate change problems. To do that I need you to be a success and I need the money to make this work. There are plenty of people who will be happy to see us on the side of the road, so listen up! I'm talking about office work from salaried workers. If you are doing something else, be creative and adapt this to your situation.
This is your one-time opportunity to hear from my raw side of my brain. It's not pretty, but this is what I think while I smile and make nice. This isn't something you are going to ever hear about again. I am a very nice guy but I want most of all to be crystal clear and let you know what I need.

When you do well, I do well, and I'll love you while I need you. Tomorrow, if the competition runs me over or the bottom falls out, you're road kill. One tip; you work for you even if I make out the paychecks. I just expect that to be smart for you.  I will assume you work for me and owe everything you are to me, but deep, deep down, I know you work for yourself. No one cares about you like you do, so pay attention! Your job isn't going to last forever, make the most of it. Nothing personal, this is business.

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## Number One: Make me look good

and I don't mean sucking up, I hate that, and I can tell. Look at my job and make it better, easier, and more efficient. Solve my problem before I know I have one. Plus, attend to your assignments, your responsibilities. Provide me ideas, contacts I should know, articles and anything I can use to kill the competition or grab more market. Like most my employees, you won't do this and you'll be surprised when your fired. It's your choice!

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## Number Two: We are partners

as long as this works; you got my back, I'll sign your paycheck. I make the organization work. Your job doesn't exist unless I have a problem. I hired you to be the solution. I'll help you with every resource available, so let me know what you need before it's too late. Make your case. Be on the money, I want profit or the most for every damn dime I spend. If my problems --this organization's problems-- don't matter to you, I'll find out! Next, you'll be out on your ass. So, love my problems or fake good, real good! This might not be war, but I'm serious about what I do.

When it's over, you want me to be your best reference ever! If you're really that good, I'll find a place for you even after I fire others. What you don't want is a reluctant reference from me. Be ready, shit happens!

Your co-workers don't pay attention to all my needs, so if you do, you're the best. Co-workers are going to hate you for this. You don't work them. If you kick them into gear, even better (for me and the organization). More committed workers, the faster we make progress on climate change.

## Number Three: Tell me about your success

and be quick about it! I need feedback on what works and what to kill. Immediately! I want to know what's hot and how to kick ass. Our competition won't wait. They're happy making roadkill of us. Our customers deserve and expect the best.

Confusing me with your past boss or teacher who knows what you're doing or when it's due is a big-ass mistake. If you wait till I know you did stupid, I'm going to be pissed. Tell me soon and tell me often about your progress, even when you get nothing back from me. It's not too much unless I say "STOP! TMI!" Tell me stuff like: "On X project I called five people and found three great ideas. I used this one (spell it out) to help ten clients with their problems and they all love you." (Ok, this is an example, you use it to figure out what success should look like!) Any success you have is worth reporting. Don't expect "atta girl" or "atta boy" rewards, just keep it coming, all the time. You will see your ideas become mine when I'm talking to clients or selling an idea. I do what I have to, to make us look good and achieve goals. For good work, you get to help solve climate problems. I will also write a phenomenal recommendation when you are ready to move on!
A small aside: If you ever have a boss that neglects credit **and** reward, nail him or her! It's time to confront. Don't expect to get both all the time. To you, upward movement is far more important than credit for achievement. It's business, not a beauty contest. If you get neither help nor resources to solve climate problems, it's time to move on. Your boss may be ruthless but ought to have your back if you're making him or her look good. Tell them what you expect and see if direct confrontation is effective. After two weeks my office manager said, "I can't work for you!" We came up with a solution and worked effectively six years after that. I need to hear your concerns to fix things and you need to know where you stand.

## Number Four: If you see a problem, fix it.

If you can't fix it, tell me what you did. Doing nothing is stupid. I may leave it to you to find help. Initiative looks good, so try everything first and fast. Covering up worries me, so don't hide a dying project. Ask for feedback on longer, on-going projects. State your progress. Project with specific detail what it will take and ask for advice and resources to complete.

## Number Five: This is for office workers:

Spend prime business hours connecting with people. (No one believes I recommend this, but it works for me.) You have tons to learn, use people who already know. If those who know are working for the competition, pick their brains. Tell me what you're doing and report how we can use what you learn. If I don't know what you're up to, I'll think you're off task. My best employees look like they aren't working (if I had machine operators that would be different) but when trust is mutual, we all win. You get trust from me by keeping me informed. Also, by ringing up great results. After you're on the job a while you will have more autonomy.

You (**salary workers)** will work after others go home or before they come to work to adjust for your socializing. Don't expect to hear rewards for your extra time, expect results on assignments. Producing results equals job movement. I promote success. No results, no success!

## Number Six: Steal ideas, hatch your own.

I won't be telling you how to do your work so create innovations and borrow liberally from others. Ask co-workers how they found new ideas and better methods. Share your best practices and sources and become a contributor. From your best people sources, cultivate a mentor to be your anchor and advisor. The best mentors know your job. They are outside your office so they are not making decisions about you. From your job search contacts you may have met good mentor candidates. Strike a balance with your communication. Don't send trivial requests for information nor wait so long they forget you. Let them know your job situation without divulging my confidential information. Feed them anything you legitimately can that will make advising easier for them. Share ideas with them to make their job easier, just don't give away our proprietary ideas and data! Do that and your gone! Toe that fine line!

## Number Seven: Manage your impression:

Especially with me; and with coworkers for most efficiency on your job. Most employees think they make a good impression by showing up and doing what's expected. That's crucial. But stop there, and you made a stupid assumption I know you do a great job! I have to hear from you what you accomplished. Don't wait for me to maybe hear from someone else! By the way, if you're not worth moving up

the ladder you are not worth keeping. Show-up people are content, don't need special attention AND they are expendable.

More people lose jobs for crap that has nothing to do with their skills. Here's a list. Study it and stick to it: Don't 1. Feud with fellow employees, 2. Fail to show up, 3. Show up late, 4. Display bad attitude, 5. Fail to start until told, 6. Limit what work you will do, 7. Fail at teamwork, 8. Fail to communicate or communicate bad attitude. These are a few non-job-skill lead bricks. More people lose their job for this shit than for not being able to do the job. Feuding with co-workers is a major issue. If you aren't fun at work, watch your back! From me down, we want work successful AND to be fun with fun competent workers. Anyone who makes my organization an A-Team and has fun doing it, is a winner.

Here's two employees with the same job. Joe made it look like he worked hard but made sure his project plans were ineffectual. He did that so he didn't have to work so hard. He had big plans on his schedule, but poor results. He kept his workload insignificant as his projects mysteriously died stillborn. He worked by himself and reported upcoming plans, but no reporting during development. He blamed co-workers that fell through or didn't show. He's gone now.

Estrella worked with many co-workers and many people out of the office. Most of her projects were timely and met great success which she shared graciously with co-workers. Estrella was well liked and respected at work and was highly effective. Joe spun at the edge of the group and received little help when times were tough. Co-workers always looked for new projects Estrella wanted to launch and asked to be part of them. She's likely to be the boss for all of us soon, but right now she's busy at another company.

Success means more hard work, but it also generates enthusiasm and co-worker alliances that means higher efficiency and better outcomes. It also means we are making progress on climate issues. That's the bottom line. This is where forward motion in your career comes from: people outside the office notice, I notice, my boss notices.

Recently a new hire at another outfit told me solving problems sucks. They just give you more work or they let you go when the problem is done. What you want to do, according to her, is tease the problem along but don't solve it. Don't know who her boss is, but I would fire the boss! This is stupid twice. First, a problem that doesn't get solved is an expense that never goes away. Second, she's not gaining in skills and we are all failing to solve the climate problem. When the end at this job

comes, she's not getting a recommendation. And the end is coming. Either the organization fails if this attitude prevails or her boss will. Likely she will be next.

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## Number Eight: Communications. Not communicating with me is always a huge mistake.

Missing work, or leaving without communicating is major. Example: My employee didn't come to work because he couldn't get his car unlocked. Really? He missed the whole day! I expect creative problem solving, beginning with a direct message and then arranging alternative transportation! If you can't handle your personal problems how are you going to handle my work problems? Why should your co-workers suffer for a minor personal problem? Certainly major issues come into our lives and if you have been effective at work and sharing the load, people will cover you ass. If you haven't, you lose.

Another issue is how you communicate. Hochdeutsch is a German word for high German or standard German. If you use another language with our clients or co-workers, then the same applies to that language, Spanish for example. Use clear, formal language for accuracy and best impression. This is what I expect you to use at work. You represent me (and my organization) any time you are at work talking to customers, suppliers, buyers, clients, volunteers and competition. You represent me at the company picnic, the company happy hour and with any of my customers even when not at work or during work hours.

Use the best language you know and keep building your vocabulary. If you didn't learn grammar, don't count on spell check, it won't be there when you open your mouth.  I expect you to know all the professional terms we use in office and in the profession. This guide is informal and full of slang but my business is not. If there are settings where things are different, I'll tell you, OK?

We use formal language because it is the best way to communicate clearly and precisely. There will be fewer mistakes in understanding. If you have any doubt, check to see that your message sent is the message received by the other person. That means ask what they heard. That comes down to being specific by naming people, projects and actions rather than depending on  generic pronouns and references.

I expect if you have another, less formal or even vulgar vocabulary and manner of speaking that you won't use it when representing me. I am painfully aware

profanity is at an all time high among Americans. You might see that as your license to unleash your most creative vocabulary. While I'm the boss, I'm more concerned with the people you turn away than with the positive impression your expanded literary efforts might offer to a few that appreciate your efforts.

An example: One of my employees was capable of staying on track and presenting with finesse, until the clients stepped out of the room. At that point he dropped into his customary vulgar manner of speaking with co-workers without recognizing how unprofessional that was perceived. I got that feedback. It required a quick reminder of what representing me means. I would put this under "respect yourself." When you present yourself as less than professional, people take notice and make decisions about you. Next, they downgrade your work as well.

One side effect of informal language is how easy it is to be mis-understood and making other co-workers uncomfortable. An auto dealer I visited was exceedingly vulgar creating a hostile environment as topics leaned into sexual and ethnic harassment. It might have not been intended, but once off track it was not going back in the genie bottle. If everyone else does it at your office, it will leak out and it will have a negative effect.

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## Number Nine: Policy, formal and informal.

Impression management has a policy side. Every employer has policy regarding expectations and allowances. If I learn about surprises in attendance, even those "allowed" by policy it's bad juju. A few insist on vacation during the busiest times. That means shifting work to others, and friction among co-workers. If I relent, it means I fail my team. The team, rightly, will blame me for allowing this variance and inequity.

Occasionally time off, with consultation, for short periods is possible even in busy times, but I have had a few who insist on pushing the limits. They don't last long. I have discretion on vacation (this surprises some workers) and will work with you. If you're trying to make me look good, be at work, especially during the heaviest work periods.

Some employees think sick leave is something owed them and they take it at their whim. Take sick leave for stress, but do it when we can accommodate it. I need balance for your time off and the needs at work, and the balance is always to my side of the table. I mind when folks abuse the system and their co-workers and my

clientele are affected. Of course, I value your health and expect you take sick leave and not bring your (unhealthy) viral and bacterial community to work with you

At the end of every year I review the employee record. If I see every hour of sick leave and vacation was taken, two things come to mind. 1. The person is working the system and if/when she/he has an extended illness requiring time off, it's going to be really expensive without that cushion. 2. Maybe they should work somewhere not so stressful. I might encourage that thought when it comes to raises and bonuses. Of course, if I also see this is my best performer, that’s a different situation. Somehow that just doesn't happen.

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## Number Ten: Start leaving now!

Start thinking about your next job as soon as you start here. Identify people in jobs/ offices where you want to land after this job. Stay in touch with these target people. Manage your impression, by asking about challenges your target has and what's working. People who know my problems feel like fellow sufferers: colleagues. Provide your best solutions, resources and ideas. If you can solve a target’s problems or help them see a new perspective, you look like an expert. Send links and clippings of stories of success to your target contacts. Tell them about success you learn about with similar issues. People who are always tuned in and provide what I need look like resources I want on my team.

Ask everyone what they read, what apps they use, what resources they have found. Dig into that treasure trove and devour it. I want you to do this, so I know you have a future that makes this job worthwhile. If your current job is your idea of your last job, I start worrying. I worry you have nothing to work towards and tomorrow you’ll be the dead wood in my department. Motivation counts more than keeping you captive.

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## Number Eleven: Moving on by cultivating target contacts.

Look around our larger organization to see what groups cross departments in committees, task forces, or work groups. Focus early on those that relate to your responsibility. Later, look at those involved with issues related to your next job. Right now learn current responsibilities and contributing to others doing similar work in other departments. It will help you do your job and it looks good. Ask your

contacts about their in-house committees and organizations. Then meet people who are instrumental in them. Understand the committee mission and pick one related to your work. Go to the chair, and tell him or her what you like about the committee accomplishments and values. Volunteer for the primary communicating job. Everyone has to, or expects to talk to the newsletter person. Newsletter might mean a media site, a blog or a real paper rag that goes out to the committee.

As you progress, tell me how your committee work is good for us, by us, I mean me. I want you to learn the best tricks and resources for solving my problems using relationships with people out there who train you without costing me time and money.

This is another place to think about language. It is rarely the wrong choice to be formal. It shows you are professional in your manner and that you respect the people you are with. If you work across generations, it is more important than you probably know. The reason is that formal language communicates both ways clearly without the loss of information that sometimes occurs with slang that may not have shared meaning. Part of why you use slang is to separate yourself from others.

The best rule of thumb is stay with formal language unless the people in power are speaking informally. Even then, as a newer person in the organization, always think about how you are going to be heard and evaluated. Stay one step more formal than your audience around you and you probably are making the right decision. Hear one swear word and then drop into your sailor curses? That’s too fast and too much.

When you're ready, look for regional or national organizations to join. I want you to do this so you learn from the best in the country. I know there are opportunities to gain new skills and exposure for your job mobility and I expect to hold onto you even though you will be tempted to move on. Mostly I want this climate problem solved and if you contribute more somewhere else, that works for me!

Everyone asks where you see yourself five years from now, during interviews. I want you to live that vision through success today and connections with the decisions makers in my organization and the profession. Look at the power structure and the money flow. What is worth doing that puts you in a key position to manage money and power? Don't get stuck thinking about a job title, think about responsibilities and functions. Money is where the power is and vice versa. Power and money are what is going to get the climate problems solved.

Even if you have modest financial goals, you might as well be the most well paid person doing the work you love doing. If you burn out, your work will suffer and so will the climate. Take care of yourself. This is not about selling out, this is about respecting yourself and being rewarded for good work.

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## Number Twelve: More on impression management and professional demeanor: When you talk about me and our office, always talk about problems you are solving and ideas that work.

Never rat me out, or your co-workers with **anyone**, **anywhere**. This isn't because I'm thin-skinned. This is **your** reputation insurance. Assume anything you do or say anywhere will be eventually be known by **everyone**. If your trash talk goes public, you lose all trustworthiness. If you tell me trash about someone today, why wouldn't that be me you talk about tomorrow? I won't trust you. Act as though every word you say and everything you do will be known by everyone eventually and you won't make many mistakes in life in general. If you decide to trust someone with your complaints, make sure that trust is justified. You never know who knows whom, and when that overheard conversation will come back to you.

I see that most people believe they are anonymous: No one is paying attention since there are so many of us. What I hear as the boss is more often surprising than not. Bad news travels fast as jealousy propels gossip to the most painful locations. I have heard personal trash on my employees that have nothing to do with their performance. I don't want to know. I also know that information might sink their chances for their next job in another department. For most of us in our professions, the number of people who share our job titles might be a few thousand across the nation and often only a few dozen locally. When you want to move on and up, this is of particular merit as potential new employers will cast about for news about you as they consider your candidacy. Leave the best positive, trail you can. Remember, a huge amount of getting the job is being fun, reliable and getting the job done without complaining and causing trouble for the boss.

Your impression management absolutely extends to your social media. Instagram, FaceBook, etc. are huge, your blog is fair game for reputation analysis and image, and you should expect your Tweets and Instagram photos don't disappear into the ether. Write and post as though your image is going to be in the most public of places when you least expect it. If you have not managed your on-line image well, find out how to remove as much as you can and start thinking of how to explain the

worst that you let get away. It is probably never going to truly die even if the app maker says it ends in five seconds.

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## Number Thirteen: Use good judgment!

What I wrote here focuses on me, the boss. We all grow up at school where the teacher tells us what to do and when to do it and then grades the whole mess. Equating work with school is a huge-ass mistake. At work you should be in charge. You have a mission and your ideas to launch. If you wait for me to tell you how to do your job, it's too late. You lose freedom to initiate and you lose my faith. School lessons fit deadlines set by your teacher. It all has to fit the school year. You turn in what you have when it's due. Good judgment means to do the best you can, make decisions you can live with even if you expect they will never go away. Those decisions generally don't go away. Good judgment means taking the perspective of me, your boss, as well as your co-workers, the customer/clientele and the general public. Assume what you do is open for scrutiny by one and all, because it will be this time or the next.
Regarding judgment, you need to consider what you are told to do. Assignments don't go away because you ignore them. Your teacher might just drop one assignment from grading, and the term comes to an end whether you are done or not. That's not true at work. If you don't want to do my assignment, tough! You can push back, with reasoning, about what might be better. In the end, I make up the assignment and you do it.

Not doing an assignment is insubordination, the most worthy of causes for firing! So don't expect an assignment to ever go away by itself even if you've gotten new assignments from me. It's not over! Even if I quit asking about the assignment, it's not ever over! Get it done! Re-negotiate if you think you have a good proposal for better headway.

As the boss, if I don't know what you are doing, I might make new and unreasonable demands. Even though you are light-years from finishing assignments you already have, I make the schedule. It's another reason to keep me abreast of your workload.

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## Number Fourteen: Evaluations.

Unlike a teacher, I don't give exams or homework, that's why you need to report what you did, especially what works. Otherwise the time for evaluations will come

and I will want to skip it. It’s hard for me to find out what you did and that’s not productive for me. It’s also against your best interest that I find out from someone else what you did or did not do.
You want that evaluation and you want it based on what you told me you did, with your freedom and discretion. You want to describe how the job you love so much is going so damn well! In fact you want more frequent informal opportunities for feedback from me throughout the year. Remind me and ask for feedback so you know. No surprises about poor performance! Evaluation should not require much work or even much thinking on my part. Did you do a great job? I ought to know that. If I don’t immediately see the answer is yes, then it’s not yes.

If I miss your evaluation, you have no record with the institution of doing a good job, nothing to go back to if you get a new boss who says you're lousy! I might find a better job tomorrow, so keep current with your record. You have nothing to argue with if you are later told you haven't performed. Given the current state of funding this is most important.

If the time comes for cuts; I see Employee A and if I wonder what A did the last six months? That’s not positive.  If I wonder why A took so much sick leave and vacation time, then that's the person who’s going to get cut. If I have raises to assign, that big or paltry cost of living raise will shrink. And if it’s about who gets furloughed, the person with more questions gets the fewest hours of work.
**Finally:** Work hours (salaried office workers) are for being visible, making many contacts and always looking for new solutions to using the money (you control your hours, your equipment, your materials which all cost me money) to go further, get more done and make progress. If you can bring in money, even better. The bottom line is money. Money our office spends even if you never see it. If you give your work a little extra time for reporting, for proposing new solutions and for stepping up at critical times to get the job done, it should be to your advantage, especially if I know what you did, when you did it and what the positive outcome was.

---

## Summary

**Finally:** Work hours (salaried office workers) are for being visible, making many contacts and always looking for new solutions to using the money (you control your hours, your equipment, your materials which all cost me money) to go further, get more done and make progress. If you can bring in money, even better. The

bottom line is money. Money our office spends even if you never see it. If you give your work a little extra time for reporting, for proposing new solutions and for stepping up at critical times to get the job done, it should be to your advantage, especially if I know what you did, when you did it and what the positive outcome was. This adds up to positive climate change solutions

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